ARTICLES

THE CLEAN AIR ACT AMENDMENTS OF 2022: CLEAN AIR, CLIMATE CHANGE, AND THE INFLATION REDUCTION ACT

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SUMMARY

The Inflation Reduction Act (IRA) of 2022 added seven new sections to the Clean Air Act (CAA) and provided the U.S. Environmental Protection Agency (EPA) with substantial new authorities and resources. This Article examines these new amendments and the EPA-related provisions of the IRA, and explains the major implications of this historic legislation. It describes how the IRA confirms that reduction of greenhouse gases (GHGs) is a core goal of the CAA, that the funding provided should allow EPA to increase the ambition of its CAA rulemakings, and that the IRA confirms applicability of the CAA to GHGs in three important, specific areas: California's ability to regulate GHG emissions from vehicles; EPA's authority to regulate methane emissions from oil and gas facilities; and EPA's authority to regulate GHG emissions from power plants.

In August 2022, the U.S. Congress took arguably its most significant action in history to address climate change. Using the budget reconciliation process, Congress passed the Inflation Reduction Act (IRA),[1] legislation that invests hundreds of billions of dollars over the next 10 years to address climate change. Combined with the Infrastructure Investment and Jobs Act of 2021 (IIJA)[2] and the CHIPS and Science Act of 2022,[3] Congress is implementing a climate-focused, innovative industrial policy that will move the United States toward a clean energy future.[4]

According to President Joe Biden, the IRA is "the most important climate initiative ever, ever, ever."[5] Numerous energy modelers have released analyses projecting that following passage of the IRA, the United States will reduce greenhouse gas (GHG) emissions by approximately 40% by 2030 from 2005 levels.[6]

Authors' Note: Greg Dotson served as Chief Counsel for the Senate Environment and Public Works Committee during development and enactment of the Inflation Reduction Act. Dustin Maghamfar served as Air and Climate Counsel for the House Energy and Commerce Committee during House development and passage of the Build Back Better Act, including the Clean Air Act Amendments later enacted in the Inflation Reduction Act.

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1. Pub. L. No. 117-169, 136 Stat. 1818 (2022).
2. Pub. L. No. 117-58, 135 Stat. 429 (2021).
3. Pub. L. No. 117-167, 136 Stat. 1366 (2022).
4. *See* Lachlan Carey & Jun Ukita Shepard, *Congress's Climate Triple Whammy: Innovation, Investment, and Industrial Policy*, RMI (Aug. 22, 2022), https://rmi.org/climate-innovation-investment-and-industrial-policy/ (calculating nearly $80 billion annually in climate spending between 2022 and 2027).
5. *President Biden Remarks on Democracy*, C-SPAN (Sept. 1, 2022), https://www.c-span.org/video/?522563-1/president-biden-calls-americans-defend-threats-democracy.
6. Rhodium Group projects that by 2030, the IRA will achieve an economy-wide reduction in GHG emissions by 32% to 42% of 2005 levels. John Larsen et al., Rhodium Group, A Turning Point for U.S. Climate Progress: Assessing the Climate and Clean Energy Provisions in the Inflation Reduction Act (2022), https://rhg.com/research/climate-clean-energy-inflation-reduction-act/. Similarly, Energy Innovation projects a 37% to 41% reduction by 2030. Megan Mahajan et al., Energy Innovation Policy and Technology LLC, Modeling the Inflation Reduction Act Using the Energy Policy Simulator (2022), https://energy-innovation.org/wp-content/uploads/2022/08/Modeling-the-Inflation-Reduction-Act-with-the-US-Energy-Policy-Simulator_August.pdf. REPEAT Project mirrors these estimates, projecting a 42% reduction by 2030, with

The IRA accomplishes this through a combination of tax expenditures, direct spending, programmatic direction to guide that spending, and—to a lesser extent—revenue collection. Congress dedicated the lion's share of federal resources for addressing climate change in new or reinvigorated tax policy. These provisions will encourage renewable energy deployment, widespread electrification and energy efficiency, sale of zero emission vehicles (ZEVs), continued use of existing nuclear power plants, domestic clean energy manufacturing, and new and emerging technologies like green hydrogen and carbon capture at industrial sources.

The IRA also provided substantial new authorities and resources for EPA to address climate change. The legislation adds seven new sections to the CAA, supplementing EPA's existing regulatory programs with new financial tools to address climate change and guaranteeing resources for those efforts for the coming decade. Congress passed this historic legislation just weeks after the U.S. Supreme Court, in *West Virginia v. Environmental Protection Agency*, constrained the U.S. Environmental Protection Agency's (EPA's) regulatory authority to address GHGs under one section of the Clean Air Act (CAA).[7]

Additionally, the IRA includes funding for EPA activities authorized by the CAA outside of these new sections. Congress has provided the Agency with $41.457 billion in resources through fiscal year 2031 to address the nation's emissions, including from the power sector, the oil and gas sector, and the transportation sector.[8] Combined with $60.885 billion in investments under the IIJA,[9] Congress has provided EPA—which has an annual budget of more than $9 billion—more than $100 billion in new funding to tackle climate, environment, and public health problems through grants and loans.

This Article focuses on the IRA's new CAA sections—what we call the CAA Amendments of 2022. We will first discuss the budget reconciliation process that produced the IRA, then describe the new CAA provisions, and finally explain the major implications of this historic legislation. Specifically, we will describe how the IRA confirms that reduction of GHGs is a core goal of the CAA, that the funding provided by the IRA should allow EPA to increase the ambition of its CAA rulemakings, and that the IRA confirms the applicability of the CAA to greenhouse gases in three important, specific areas: California's ability to regulate GHG emissions from vehicles; EPA's authority to regulate methane emissions from oil and gas facilities; and EPA's authority to regulate GHG emissions from power plants.

a trajectory that exceeds a 50% reduction by 2035. Jesse D. Jenkins et al., REPEAT Project, Preliminary Report: The Climate and Energy Impacts of the Inflation Reduction Act of 2022 (2022), https://repeatproject.org/docs/REPEAT_IRA_Prelminary_Report_2022-08-12.pdf.

7. 142 S. Ct. 2587, 52 ELR 20077 (2022); 42 U.S.C. §§7401-7671q, ELR Stat. CAA §§101-618.
8. Congressional Budget Office, Cost Estimate: Estimated Budgetary Effects of Public Law 117-169, to Provide for Reconciliation Pursuant to Title II of S. Con. Res. 14 (2022).
9. Fact Sheet, U.S. EPA, EPA & The Bipartisan Infrastructure Law (Nov. 6, 2021), https://www.epa.gov/infrastructure/fact-sheet-epa-bipartisan-infrastructure-law.

I. Procedural Background on the IRA

An understanding of the processes and congressional rules that shaped the IRA is essential to understanding and interpreting the legislation, including what was included or not, in what form, and why. On August 11, 2021, the U.S. Senate passed a budget resolution establishing the congressional budget for the federal government for fiscal year 2022, setting forth budgetary levels for fiscal years 2023 through 2031, and providing reconciliation instructions for legislation that increases the deficit.[10] Adoption of a budget resolution is necessary to enable the use of the budget reconciliation process.[11]

On August 24, 2021, the U.S. House of Representatives passed the resolution.[12] The House passed the reconciliation bill entitled the "Build Back Better Act" in November 2021.[13] After months of negotiation, the Senate passed the IRA on August 7, 2022.[14] The House passed the Senate amendment five days later.[15] President Biden signed the IRA into law on August 16, 2022.[16]

The major advantage of a reconciliation bill in Congress is that it has a privileged status, allowing the legislation to avoid the need to overcome a filibuster in the Senate.[17] That means that the legislation needs just a simple majority to pass the Senate—not a 60-vote supermajority, as Senate rules require for almost all other legislation.

The IRA needed this advantage to arrive at the president's desk. During the 117th Congress, the Senate was split evenly in partisan membership, with 50 senators in the Democratic caucus and 50 senators in the Republican caucus. Republican officials in the House and the Senate consistently opposed the use of the reconciliation process for President Biden's climate agenda and offered no support for the resulting outcome.[18] The IRA passed the Senate with all 50 senators in the Democratic caucus supporting the legislation and Vice President Kamala Harris providing the tie-breaking vote in favor.[19]

While avoiding the filibuster was critical to the passage of the IRA, the budget reconciliation process does come with limitations. Congress' budget rules apply strict

10. S. Con. Res. 14, 117th Cong. (2021/2022).
11. Megan S. Lynch, Congressional Research Service, R44058, The Budget Reconciliation Process: Stages of Consideration (2021).
12. S. Con. Res. 14, 117th Cong. §1 (as passed by House, Aug. 24, 2021).
13. H.R. 5376, 117th Cong. (as passed by House, Nov. 19, 2021).
14. *Id.* (as passed by Senate, Aug. 7, 2022).
15. *Id.* (as resolved by House, Aug. 12, 2022).
16. *Id.* (enacted as Pub. L. No. 117-169, 136 Stat. 1818 (2022)).
17. Lynch, *supra* note 11.
18. *See* U.S. Senate, *Roll Call Vote 357, 117th Congress-1st Session*, https://www.senate.gov/legislative/LIS/roll_call_votes/vote1171/vote_117_1_00357.htm (last visited Nov. 3, 2022) (budget resolution passing solely with votes by the Democratic caucus); U.S. House of Representatives, *Roll Call 258—Bill Number: H. Res. 601*, https://clerk.house.gov/Votes/2021258 (last visited Nov. 3, 2022) (House resolution providing for the adoption of the budget resolution passing with solely Democratic House votes); *see also* Nick Sobczyk, *Republicans Maneuver to Thwart Reconciliation*, E&E News (July 12, 2022), https://www.eenews.net/articles/republicans-maneuver-to-thwart-reconciliation/.
19. U.S. Senate, *Roll Call Vote 325, 117th Congress-2nd Session*, https://www.senate.gov/legislative/LIS/roll_call_votes/vote1172/vote_117_2_00325.htm (last visited Nov. 3, 2022).

requirements to ensure that "extraneous matters" are not considered in the reconciliation process.[20] Known as the Byrd Rule, after the late Sen. Robert C. Byrd (D-W. Va.), this rule describes half a dozen situations in which provisions would be considered extraneous in the reconciliation process. Any extraneous provision can be stricken on the Senate floor upon objection, unless 60 senators vote to waive the requirements of the Byrd Rule.[21] As a general matter, a provision that does not have a budgetary effect—that is, it does not produce a change in outlays or revenue—is considered extraneous.[22]

Two categories of extraneous matter are more subjective than the others, and are frequently the subject of parliamentary litigation in the reconciliation process. First, provisions that are not a necessary term and condition for a provision with a budgetary effect are considered extraneous.[23] What provisions are or are not necessary terms and conditions is a focal point of contention. Second, even if a provision has a budgetary effect, that provision could be deemed extraneous if the budgetary component is "merely incidental" to the nonbudgetary components of the provision.[24] This element of the Byrd Rule means essentially that the policy effect of a provision cannot outweigh in importance the budgetary effect of the provision.[25]

The practical effect of the Byrd Rule was that Congress could not amend the CAA in ways that were unrelated to the budgetary provisions included in the IRA. Text could be included only to the extent that the words themselves had budgetary effect or the words were a necessary term and condition for the budgetary provisions. These restrictions significantly limited the extent to which Congress was able to include new statutory definitions and other program specifications in the IRA.

Even with the limitations of the Byrd Rule, however, reconciliation provided an opportunity to strengthen current law. It enabled Congress to establish new programmatic goals and incentive programs and to amend the current statutory provisions of the CAA to make explicit that GHGs are air pollutants and that reducing them is a core objective of the Act. The Byrd Rule provided important design criteria for the IRA, and because congressional drafters were mindful of its strictures, only one CAA-related provision was struck as a result of the Byrd Rule.[26]

II. New Authorities and New Resources

The IRA adds seven new sections to Title I of the CAA, denominated as new §§132 to 138. The chairman of the House Energy and Commerce Committee called these "the most important and far-reaching amendments to the CAA in more than a generation."[27] These sections provide authority and resources for EPA to encourage the deployment of zero emission heavy-duty vehicles and zero emission port equipment, help capitalize green banks, pursue emission reductions in the power sector, reduce methane emissions in the oil and gas sector, support the development and implementation of subnational climate pollution reduction plans, and make grants to support environmental justice activities.[28] In total, Title VI of the IRA provides $41.457 billion in new resources to EPA[29] to empower and supplement its regulatory efforts with incentive-based programs and programmatic spending.[30] We next consider each of the seven new sections.

A. *Clean Heavy-Duty Vehicles*

The IRA establishes a new §132 of the CAA,[31] in which Congress appropriated a total of $1 billion to EPA to award grants and rebates to states, tribes, cities, and schools for deploying zero emission class 6 and class 7 heavy-duty vehicles, such as certain types of garbage trucks and school buses. "Zero emission vehicle" is defined as "a vehicle that has a drivetrain that produces, under any possible operational mode or condition, zero exhaust emissions" of any criteria air pollutant[32] or GHG. Of the $1 billion total, $400 million is appropriated solely for vehicles in communities located in areas designated as nonattainment for air pollution. The grants and rebates must be awarded on a competitive basis.

20. Congressional Budget Act §313, 2 U.S.C. §644.
21. *See* Lynch, *supra* note 11.
22. Congressional Budget Act §313(b)(1)(A). The stringent effect of the Byrd Rule is demonstrated by the fact that even the title of the bill was subject to its rigorous test. Sen. Lindsey Graham (R-S.C.) struck the title of the legislation from the bill because it had no budgetary effect. Thus the title "Inflation Reduction Act" appears nowhere in the enacted legislation.
23. *Id.*
24. *Id.* §313(b)(1)(D).
25. *See*, *e.g.*, Emily Cochrane, *Top Senate Official Disqualifies Minimum Wage From Stimulus Plan*, N.Y. Times (Feb. 25, 2021), https://www.nytimes.com/2021/02/25/us/politics/federal-minimum-wage.html.
26. The House had included a provision to provide $45 million to EPA to implement nine sections of the CAA with respect to GHGs. A version of this provision was included in the Senate amendment, which included eight of the nine CAA sections and specified the six enumerated GHGs. A majority of the Senate had voted to retain the provision when Sen. Shelley Moore Capito (R-W. Va.) sought to strike it. U.S. Senate, *Roll Call Vote 293, 117th Congress-2nd Session*, https://www.senate.gov/legislative/LIS/roll_call_votes/vote1172/vote_117_2_00293.htm (last visited Nov. 3, 2022).

    The Senate parliamentarian subsequently advised that the provision was "overbroad" and subject to the Byrd Rule after hearing a number of arguments regarding the multiplicity of sections and how each related to the multiplicity of GHGs. The provision was struck by a point of order. En bloc point of order made by Senator Graham to text on page 689, lines 8-16 of the IRA (Aug. 6, 2022).
27. 168 Cong. Rec. E868 (daily ed. Aug. 23, 2022) (statement of Rep. Frank Pallone Jr.).
28. IRA, Pub. L. No. 117-169, §§60101, 60102, 60103, 60107, 60113, 60114 & 60201, 136 Stat. 1818 (2022).
29. Congressional Budget Office, *supra* note 8.
30. EPA's spending cannot exceed what Congress appropriated in the IRA without additional congressional action, in contrast to the uncapped tax provisions of the bill. While the Congressional Budget Office includes projected outlays for these tax provisions in its cost estimate, actual outlays could be higher. Investment firm Credit Suisse has suggested that total climate spending under the IRA could exceed $800 billion, more than double the Congressional Budget Office's estimate, and catalyze another $900 billion in private investment. Robinson Meyer, *The Climate Economy Is About to Explode*, Atlantic (Oct. 5, 2022), https://www.theatlantic.com/science/archive/2022/10/inflation-reduction-act-climate-economy/671659/.
31. IRA, Pub. L. No. 117-169, §60101, 136 Stat. 1818 (2022).
32. Criteria air pollutants are those for which EPA has established a national ambient air quality standard pursuant to CAA §109, 42 U.S.C. §7409. *See* U.S. EPA, *Criteria Air Pollutants*, https://www.epa.gov/criteria-air-pollutants (last updated Aug. 9, 2022).

This section and many others in the IRA use a standard formulation, present in numerous reconciliation bills, that gives the Agency Administrator substantial discretion (cabined by any statutory requirements of the program) to establish the time, manner, and content of funding applications. EPA may use 3% of the unrestricted $600 million funding for the administrative costs of carrying out this section, including for hiring staff and contractors and conducting outreach to prospective applicants.

Section 132 allows EPA to award funds to cover up to 100% of costs for the following: (1) "the incremental cost[ ] of replacing" a polluting vehicle with a ZEV; (2) infrastructure associated with charging, fueling, or maintaining ZEVs; (3) "workforce development and training to support" maintenance, charging, fueling, and operation of ZEVs; and (4) "planning and technical activities to support the adoption and deployment of zero-emission vehicles." Allowing up to 100% of costs to be covered is a notable increase from other EPA grant programs, which generally require a nonfederal cost-share.[33] Also, the availability of grant funding for work force, training, and planning activities should facilitate a holistic and therefore more effective approach to the transition to ZEVs, particularly in combination with other IRA and IIJA incentives for ZEVs.[34]

B. Grants to Reduce Air Pollution at Ports

New §133 of the CAA appropriates $3 billion to EPA to award rebates and grants to reduce GHG and other air pollutant emissions at ports.[35] EPA may award funds on a competitive basis to port authorities; state, regional, local, or tribal agencies with jurisdiction over a port; air pollution control agencies; and private companies partnered with an eligible public entity that operate port equipment. The funds may be used to (1) purchase or install zero emissions port equipment or technology (defined as human-operated equipment or human-maintained technology) for use at or to directly serve a port; (2) conduct planning or permitting in connection with such purchase or installation; and (3) develop climate action plans for ports.

Per §133(d), climate action plans must include goals and strategies to reduce emissions of GHGs, criteria pollutants, and hazardous air pollutants, a strategy to engage with and address potential effects on low-income and disadvantaged near-port communities, and actions to increase the port's resilience. Of the $3 billion total, $750 million is appropriated solely for ports located in air pollution nonattainment areas. EPA may use 2% of the total funding for administrative purposes.

Given the relatively broad sweep of the statutory language here, as well as in other new CAA sections, EPA will have substantial discretion in setting up a program that meets the statutory objectives. For example, although §133 does not require an applicant to have a climate action plan in place to be eligible for funding, the section makes developing such plans one of the three key uses for funds, and describes in some detail what constitutes a qualified plan. EPA might well determine that applications consistent with applicable climate action plans would better advance Congress' objectives, compared to applications without such guiding context, and thus EPA might find it appropriate to provide some preference in the award process to applications associated with qualifying climate action plans.

C. Greenhouse Gas Reduction Fund

The IRA adds a new §134 of the CAA—the Greenhouse Gas Reduction Fund—that establishes the foundation for a national green bank program to support the rapid deployment of clean energy technologies.[36] Section 134 does this by authorizing "eligible recipients" to provide grants, loans, and other forms of financial assistance to low- and zero emission projects. "Eligible recipients" for EPA awards are nonprofits that meet specified criteria, including being designed to provide and leverage capital and other financial assistance for deployment of GHG-reducing products, technologies, and services, and being publicly or charitably funded.

The statute requires these recipients to "prioritize investment" in projects that "lack access to financing" and to recycle revenue received from loan repayments and other sources "to ensure continued operability" of the financing entities. Unlike the direct grant programs established in other new CAA sections, §134 aims to create a long-term, self-sustaining system for climate finance.

The $27 billion program has cross-cutting potential across many sector priorities, including $15 billion in dedicated funding for low-income and disadvantaged communities, and is split between two general funding streams: $20 billion for the national green bank program, which will be allocated to and administered by nonprofit finance entities, and $7 billion to deploy "zero-emission technologies" and to carry out other GHG emission reduction activities in low-income and disadvantaged communities, including distributed clean electricity generation. In addition to "eligible recipients," the $7 billion may be allocated to and administered by state, local, and tribal governments, and can be used for grants and loans as well as financial and technical assistance.

The $20 billion national green bank program aims to rapidly deploy low- and zero emission technologies through two mechanisms: first, by providing direct financial and technical assistance to projects that "reduce or avoid GHG emissions and other forms of air pollution"; and second, by providing capital to state, local, or regional green banks (either by establishing new ones or expanding existing ones) to further support low- and zero emission projects in their respective geographies. This funding includes $8 billion limited to project assistance in low-income and disadvantaged communities. Qualified projects are defined as

33. *See, e.g.*, CAA §105(a) (limiting federal share to 60%).
34. *E.g.*, the $5 billion Clean School Bus Program under the IIJA and the §45W commercial clean vehicles tax credit created by the IRA.
35. IRA, Pub. L. No. 117-169, §60102, 136 Stat. 1818 (2022).
36. *Id.* §60103.

"projects, activities, and technologies that reduce or avoid greenhouse gas emissions and other forms of air pollution in partnership with, and by leveraging investment from, the private sector," as well as projects and activities that help communities reduce or avoid such pollution.

Congress appropriated $30 million to EPA for administrative costs necessary to carry out §134. EPA must begin awarding funds in the first quarter of 2023, and has until the end of the third quarter of 2024 to award the remaining funds. The impact of these substantial quantities of dollars cannot be overlooked, especially with respect to their potential to expand access to financing in historically underserved communities.

D. Low Emissions Electricity Program

The IRA amends the CAA to establish a new §135 that appropriates funds for EPA to establish a Low Emissions Electricity Program.[37] The section provides $17 million for consumer-related education and partnerships; $17 million for education, technical assistance, and partnerships within low-income and disadvantaged communities; $17 million for industry-related outreach and technical assistance; $17 million for outreach and technical assistance to state, tribal, and local governments; $1 million to assess the anticipated reductions in GHG emissions that result from changes in domestic electricity generation and use through fiscal year 2031; and $18 million to ensure that reductions in GHG emissions from domestic electricity generation and use are achieved through use of the existing authorities of the CAA. This provision is discussed in further detail below.

E. Methane Emissions Reduction Program

The IRA amends the CAA to establish a new §136 to address major domestic sources of methane, a potent GHG.[38] This section directs EPA to provide $850 million in incentives for methane mitigation and monitoring for the oil and gas sector. Another $700 million is appropriated for these same activities specifically with respect to "marginal conventional wells," which are conventional oil and gas wells that are only marginally economic due to their low rate of production, yet are responsible for substantial methane emissions. These funds can be used for the following purposes: (1) to provide assistance to regulated entities in reporting their GHG emissions; (2) to support methane emissions monitoring; (3) to fund activities that reduce GHG emissions from oil and gas systems, clean up legacy pollution, build climate resilience in communities where oil and gas is produced, and invest in environmental restoration; and (4) to cover the administrative costs of implementing §136.[39]

Additionally, the provision directs EPA to impose and collect a charge on emissions of methane air pollution that are emitted from petroleum and natural gas systems, based on the quantities of these emissions reported by the owners and operators of the facilities. The fee program applies to onshore and offshore oil and gas production, oil and gas gathering, and natural gas processing, transmission, underground storage, and liquefied natural gas facilities.

This provision builds upon an established methane pollution reporting program operated by EPA. In 2007, Congress directed the Agency to establish a GHG reporting program.[40] EPA promulgated regulations to require reporting in 2010, and revised those regulations in 2016. Owners and operators of petroleum and natural gas systems must report emissions of methane air pollution to the Agency on an annual basis when these systems emit more than 25,000 tons of carbon dioxide equivalent per year.[41] Emitting 25,000 tons of carbon dioxide is equivalent to burning 58,000 barrels of oil or to 131 rail cars of coal.[42]

New CAA §136 requires owners and operators of petroleum and natural gas systems to pay a fee for each ton of methane air pollution that they report emitting above a certain threshold level of emissions, termed the "waste emissions threshold." This structure allows the owners and operators to avoid the fee by reducing the amount of pollution they emit. The waste thresholds are drawn from voluntary goals many oil and gas companies have adopted.

The Congressional Budget Office estimated that this fee provision would increase federal revenue by $6.35 billion between 2022 and 2031. As explained below, the fee can be avoided if expected regulations of methane emissions under §111 of the CAA are promulgated and fully implemented.

The section also contains provisions that respond to recent research and reports that methane emissions have been greatly underreported.[43] Section 136 requires EPA to revise its GHG reporting rule for the oil and gas sector within two years of the date of enactment of the IRA, to "ensure the reporting" and "calculation of charges . . . are based on empirical data" and "accurately reflect the total methane emissions" from the applicable facilities.[44] If the revised, more accurate reporting rule results in more methane emissions being reported, then this section could

37. *Id.* §60107.
38. *Id.* §60113.
39. CAA §136(a) & (b).
40. Consolidated Appropriations Act, Pub. L. No. 110-161, 121 Stat. 1844 (2007).
41. 40 C.F.R. §98 (2022).
42. U.S. EPA, *Frequently Asked Questions—Q22. How Much Is 25,000 Metric Tons of CO_2 Equivalent ($mtCO_2e$)?*, https://ccdsupport.com/confluence/pages/viewpage.action?pageId=91554027 (last updated Aug. 29, 2019).
43. *See, e.g.*, Amanda Garris, *Industrial Methane Emissions Are Underreported, Study Finds*, Cornell Chron. (June 6, 2019), https://news.cornell.edu/stories/2019/06/industrial-methane-emissions-are-underreported-study-finds; Kristina Marusic, *Oil and Gas Methane Emissions in US Are at Least 15% Higher Than We Thought*, Env't Health News (Apr. 23, 2020), https://www.ehn.org/fracking-methane-leaks-2645817287.html; Press Release, International Energy Agency, Methane Emissions From the Energy Sector Are 70% Higher Than Official Figures (Feb. 23, 2022), https://www.iea.org/news/methane-emissions-from-the-energy-sector-are-70-higher-than-official-figures; Steven Mufson, *Oil and Gas Companies Underreported Methane Leaks, New Study Shows*, Wash. Post (June 8, 2022), https://www.washingtonpost.com/climate-environment/2022/06/08/oil-gas-methane-house-science-permian/.
44. CAA §136(h).

generate more revenue than the Congressional Budget Office estimated.

The broader import of §136 is discussed in greater detail below.

F. Climate Pollution Reduction Grants

The IRA amends the CAA to establish a new §137, entitled "Greenhouse Gas Air Pollution Plans and Implementation Grants."[45] This section provides $250 million to EPA to make grants for the costs of developing plans to reduce GHG air pollution and $4.75 billion to EPA to make competitive grants to implement such plans. Of the $4.75 billion, 3% is reserved for administrative costs, which include providing technical assistance to applicants, developing a model GHG air pollution reduction plan, and modeling applicants' plans. EPA may award grants to states, air pollution control agencies, municipalities, tribes, and combinations of these entities.

The statute gives EPA broad authority to set parameters for the plans and determine what the applications must contain, although all applications must discuss the projected reduction in GHG air pollution in total and with respect to low-income and disadvantaged communities, enabling EPA to weigh applications by how they would benefit such communities consistent with the Biden Administration's Justice40 commitment (discussed further in Part III). Additionally, EPA is directed to structure implementation awards based on a grantee's performance in implementing its plan and achieving the projected reductions in GHG air pollution.

As exemplified by this section, the CAA Amendments of 2022 build on Title I's cooperative federalism-based approach to addressing air pollution, in which EPA sets targets and the states have primary responsibility (e.g., through state implementation plans) to determine how to achieve those targets. The climate pollution reduction grants, along with the grants to develop climate action plans for ports[46] and for planning costs associated with deploying clean heavy-duty vehicles,[47] incentivize subnational entities to engage in strategic planning to address sources of climate pollution, and could lead to the development of more state climate plans. This may lead to a boom in planning on how to reduce climate pollution under the auspices of the CAA, with numerous opportunities for synergies with state implementation of requirements under §§110, 111, and 112, among others, for both GHGs (as applicable) and other air pollutants.

G. Environmental and Climate Justice Block Grants

The IRA amends Title I of the CAA to establish a new §138,[48] which appropriates $3 billion to EPA to award grants and provide technical assistance to community-based nonprofits, either alone or in partnership with a tribe, local government, or institute of higher education, for environmentally related activities that benefit disadvantaged communities. Activities eligible for funding fall into five categories:

- Community-led pollution monitoring, prevention, and environmental remediation, and investments in low- and zero emission and resilient technologies and related infrastructure and work force development that help reduce GHG emissions and other air pollutants;
- Mitigation of climate and health risks from urban heat islands, extreme heat, wood heater emissions, and wildfire events;
- Climate resiliency and adaptation;
- Reduction of indoor toxics and indoor air pollution; and
- Facilitation of engagement of disadvantaged communities in state and federal public processes, including facilitating such engagement in advisory groups, workshops, and rulemakings.

Seven percent of the funding is reserved for administrative costs.

H. General Provisions of the CAA and the New Amendments

As discussed above, the provisions of a budget reconciliation bill must produce a change in outlays or revenues of the federal budget. Precisely how provisions are drafted to achieve that outcome is an important and fundamental question faced by Congress as it considered the legislation that became the IRA. A provision could be drafted as an amendment to laws already in the U.S. Code or as a non-amendatory provision (referred to as a "freestanding provision"). Whether a provision is freestanding or amendatory has no effect on its budgetary impact, and in either case the provision must comport with the Byrd Rule.

Reconciliation bills often contain both freestanding provisions and provisions that amend existing laws. In past reconciliation bills, for example, Congress amended the Flood Control Act of 1968,[49] trust fund provisions established by the Superfund Amendments and Reauthoriza-

45. IRA, Pub. L. No. 117-169, §60114, 136 Stat. 1818 (2022).
46. CAA §133(a)(1)(C).
47. *Id.* §132(b)(4).
48. IRA, Pub. L. No. 117-169, §60201, 136 Stat. 1818 (2022).
49. Section 5001 of the Omnibus Budget Reconciliation Act of 1993 amended the Flood Control Act of 1968 to authorize the U.S. Army Corps of Engineers to collect fees.

tion Act of 1986,[50] the Communications Act of 1934,[51] and the Social Security statutes.[52] The choice matters, however, because by choosing an amendatory provision, Congress can take advantage of other provisions of the underlying statute that apply to the new provision by operation of law. By situating a new provision in a statute such as the CAA, legislators can take advantage of an array of preexisting statutory tools that apply to all CAA provisions. This becomes particularly important in the reconciliation context, where Congress is quite limited in the types of provisions it can include.

The IRA is the first time Congress has amended the CAA in a reconciliation bill, and the consequences of an amendatory approach are especially significant for these provisions, given the history and complexity of the underlying law. Because the IRA amended Title I of the CAA, Congress was able to rely upon existing provisions of the Act to provide important statutory elements that are at minimum useful, and likely in some respects essential to administrability, for implementation of the new provisions. The general provisions of the CAA apply to "this chapter" (chapter of Title 42 where the CAA is codified) and to "this subchapter" (Title I of the CAA); therefore, the general provisions apply to the CAA Amendments of 2022 by operation of law.[53]

Some key provisions that apply to the new amendments include:

- *Rulemaking authority*. Section 301 of the CAA authorizes the EPA Administrator "to prescribe such regulations as are necessary to carry out his functions under *this chapter*."[54] This authorizes the Administrator to issue regulations as necessary to implement §§132 to 138. The existence of §301 in existing law was the reason that a specific rulemaking authority clause in new §136, the Methane Emissions Reduction Program, was deleted as duplicative prior to Senate passage of the legislation.

- *Judicial review*. Section 307 of the CAA prescribes that "nationally applicable regulations promulgated, or final action taken, by the Administrator under *this chapter* may be filed only in the United States Court of Appeals for the District of Columbia."[55] Any nationally applicable regulations promulgated by EPA to implement new §§132 to 138 will therefore be reviewable only in the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit. This is particularly salient for the Methane Emissions Reduction Program, which specifically requires the use of notice-and-comment rulemaking to update reporting requirements.[56]

- *Administrative proceedings*. Section 307 provides the Administrator with tools to ensure that the provisions are implemented in accordance with the law. The section authorizes the Administrator to "issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and he may administer oaths" for "any investigation, monitoring, reporting requirement, entry, compliance inspection, or administrative enforcement proceeding under [*this*] *chapter*."[57]

- *Enforcement*. Section 113 of the CAA provides for civil and criminal enforcement as well as assessment of civil administrative penalties.[58]

- *Citizen suits*. Citizens are empowered to help compel implementation of the new CAA sections. Section 304 of the CAA authorizes any person to bring a civil action against the EPA Administrator "where there is alleged a failure of the Administrator to perform any act or duty *under this chapter* which is not discretionary with the Administrator."[59]

- *Recordkeeping*. Section 114 of the CAA authorizes the Administrator "[f]or the purpose . . . of carrying out any provision of *this chapter*," to require any person "who is subject to any requirement of *this chapter*" to maintain records, make reports, and "provide such other information as the Administrator may reasonably require."[60] Section 311 of the CAA requires that "[e]ach recipient of assistance under *this chapter*" keep such records as the EPA Administrator shall prescribe, in order to facilitate an effective audit.[61]

- *Labor standards*. Section 314 of the CAA directs the Administrator to "take such action as may be necessary to insure" that all workers on "projects assisted under *this chapter*" shall be paid prevailing wages as determined by the Secretary of Labor.[62]

- *Retention of state authority*. Section 116 of the CAA provides that "nothing in *this chapter* shall preclude

50. Section 1321 of the Taxpayer Refund and Relief Act of 1999, which was passed by the 105th Congress in 1999 and vetoed by President Bill Clinton, would have consolidated the Hazardous Substance Superfund and Leaking Underground Storage Trust Funds into a single Environmental Remedial Trust Fund.
51. The Omnibus Budget Reconciliation Act of 1993 amended the Communications Act of 1934.
52. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 amended the Social Security statutes. The Deficit Reduction Act of 2005 amended the Social Security statutes. These provisions did not relate to Social Security's Old-Age, Survivors, and Disability Insurance program that the Byrd Rule specifically considers to be extraneous. Congressional Budget Act §313(b)(1)(F), 2 U.S.C. §644(b)(1)(F).
53. Title III of the CAA is entitled "General Provisions," but the reference to general provisions here encompasses both Title III and the broadly applicable provisions of Title I of the CAA.
54. CAA §301(a), 42 U.S.C. §7601(a) (emphasis added).
55. CAA §307(b)(1), 42 U.S.C. §7607(b)(1) (emphasis added).
56. IRA, Pub. L. No. 117-169, §60113, 136 Stat. 1818 (2022).
57. CAA §307(a), 42 U.S.C. §7607(a) (emphasis added).
58. CAA §113, 42 U.S.C. §7413.
59. CAA §304(a)(1), 42 U.S.C. §7604(a)(1) (emphasis added).
60. CAA §113, 42 U.S.C. §7413 (emphasis added).
61. CAA §311(a), 42 U.S.C. §7611(a) (emphasis added).
62. CAA §314, 42 U.S.C. §7614 (emphasis added).

or deny the right of any State or political subdivision" to adopt or enforce limits or requirements relating to air pollution.[63]

It is questionable whether the features of these broadly applicable provisions of the CAA could have been duplicated or mirrored in reconciliation legislation due to the Byrd Rule. By adding the new provisions as §§132 through 138 to Title I of the CAA, however, Congress secured the same result, or perhaps even a better one, since restatements of the general provisions would not necessarily have carried along with them the interpretations and precedents that have been developed over time for the preexisting CAA general provisions. The general provisions, as well as the comparative lack of ambiguity about their meanings, should greatly assist EPA as it carries out the new provisions.

I. New Funding for Air Pollution Initiatives

In addition to new sections of the CAA, the IRA includes new or additional funding for a host of existing or new air pollution-related EPA activities. These funding provisions are described briefly below. They range from new funding for existing programs like the Diesel Emissions Reduction Act (DERA) Program to new undertakings such as establishing a program to facilitate the decarbonization of construction materials. While smaller in dollar amounts than the CAA Amendments, these provisions are critically important investments in public health, reducing GHG emissions, and responding to the concerns of low-income and disadvantaged communities.

- *Diesel emissions reductions*. Congress appropriated $60 million in funding to EPA to provide grants, rebates, and loans to address diesel emissions in low-income and disadvantaged communities through the long-standing DERA Program.[64] Specifically, these funds can be used to identify and reduce diesel emissions resulting from goods movement facilities and vehicles servicing such facilities to address the health impacts of these emissions in such communities. Two percent of the funding is reserved for administrative costs.

- *Air pollution monitoring*. The IRA provides to EPA, for grants and other activities pursuant to §103(a)-(c) and §105 of the CAA,[65] $117.5 million for air toxics and community air quality monitoring systems[66]; $50 million for grants and other activities to expand, replace, repair, operate, and maintain the national ambient air quality multipollutant monitoring network[67]; and $3 million to deploy, integrate, and operate air quality sensors in low-income and disadvantaged communities.[68] This funding addresses major gaps in capital funding for monitoring air quality and air toxics in such communities.[69]

- *Wood heaters*. Through the same sections of the CAA, the IRA provides $15 million for grants and other activities for testing and other Agency activities related to reducing pollution from wood heaters.[70]

- *Methane monitoring*. Once again using §103(a)-(c) and §105, Congress provided $20 million for grants and other activities for methane emissions monitoring.[71]

- *GHG and zero emission state standards for mobile sources*. As discussed in greater detail below, Congress appropriated $5 million to EPA to make grants to states to adopt and implement GHG and zero emission standards for mobile sources pursuant to §177 of the CAA.[72]

- *Funding to address air pollution at schools*. This section provides EPA with $50 million for grants and other activities to monitor and reduce air pollution and GHG emissions at schools pursuant to §§103 and 105 of the CAA.[73] Of those funds, $37.5 million is provided for grants to monitor and reduce air pollution and GHG emissions at schools in low-income and disadvantaged communities, and $12.5 million is provided for technical assistance to help schools address environmental issues, identify and mitigate ongoing air pollution hazards, and develop school environmental quality plans that include standards for school building design, construction, and renovation.

- *Funding for §211(o) of the CAA*. This section provides $15 million to EPA for alternative renewable fuels programs.[74] Of these funds, $5 million is provided for the purpose of testing fuels and fuel additives with respect to environmental and public health effects, and $10 million is provided for grants to support investments in advanced biofuels, which are 50% cleaner than traditional fuels.

- *Funding for implementation of the American Innovation and Manufacturing Act*. This section provides

63. CAA §116, 42 U.S.C. §7416 (emphasis added).
64. IRA, Pub. L. No. 117-169, §60104, 136 Stat. 1818 (2022).
65. CAA §103(a)-(c) authorizes research and development for the prevention and control of air pollution, including air pollutant monitoring. CAA §105 authorizes grants to air pollution control agencies to support air pollution planning and control programs. Congress appropriated an additional $25 million to EPA for grants and other activities authorized under these sections in IRA §60105(f).
66. IRA, Pub. L. No. 117-169, §60105(a), 136 Stat. 1818 (2022).
67. *Id.* §60105(b).
68. *Id.* §60105(c).
69. Tim McLaughlin et al., *Exclusive: U.S. Air Pollution Monitoring Network Falling Into Disrepair—GAO Report*, Reuters (Dec. 7, 2020), https://www.reuters.com/article/usa-pollution-airmonitors-gao/exclusive-u-s-air-pollution-monitoring-network-falling-into-disrepair-gao-report-idUSKBN28H1V5.
70. IRA, Pub. L. No. 117-169, §60105(d), 136 Stat. 1818 (2022).
71. *Id.* §60105(e).
72. *Id.* §60105(g).
73. *Id.* §60106.
74. *Id.* §60108.

$38.5 million to EPA to carry out the American Innovation and Manufacturing (AIM) Act[75] to phase down hydrofluorocarbons (HFCs)—climate superpollutants, carrying hundreds to thousands of times the heat-trapping potential of carbon dioxide.[76] Of these funds, $20 million is provided for general implementation of the AIM Act, $3.5 million is provided to fund the deployment of implementation and compliance tools (e.g., for addressing illegal trade of HFCs), and $15 million is to fund competitive grants for reclaim and innovative HFC destruction technologies. Of amounts made available for competitive grants, 5% is reserved for administrative costs necessary to carry out the grant program.

- *Funding for enforcement technology and public information*. This section provides $25 million to help modernize EPA's enforcement technology and public information.[77] Of these funds, this section provides $18 million to update the Integrated Compliance Information System and any associated systems, necessary information technology infrastructure, or public access software tools to ensure access to compliance data and related information.[78] Second, the section provides $3 million for grants to states, Indian tribes, and air pollution control agencies to update the systems of those entities to ensure communication with EPA's Integrated Compliance Information System and any associated systems. Third, the section provides $4 million to acquire or update inspection software and related devices for use by the Agency, states, Indian tribes, and air pollution control agencies.

- *GHG corporate reporting*. This section provides $5 million for EPA to carry out a program that helps enhance standardization and transparency of corporate climate action commitments and plans to reduce GHG emissions.[79]

- *Decarbonizing construction materials and products*. The IRA contains four provisions designed to work together to establish a programmatic structure for the decarbonization of construction materials and products. Two of these provisions provide resources for EPA to establish an analytic framework for the program.

  First, the IRA provides $250 million to EPA to support the development, standardization, and transparency of environmental product declarations for construction materials and products.[80] EPA can use the funds to provide technical assistance and grants to businesses that manufacture these materials to develop and verify environmental product declarations. The funds can also be used to carry out other activities that assist in measuring and steadily reducing the quantity of embodied carbon of construction materials and products. Of amounts made available in this section, 5% is reserved for administrative costs.

  Second, the IRA provides $100 million to EPA to develop and carry out a program, in consultation with the administrators of the Federal Highway Administration and the General Services Administration, to identify and label low-embodied carbon construction materials and products.[81] EPA is to identify materials and products with substantially lower embodied carbon emissions than the industry average for such products based on environmental product declarations or determinations by state agencies. The funds may be used for administrative costs associated with conducting the activities under this section.

  The other two sections of the IRA relating to low-embodied carbon construction materials and products provide funds to help develop markets for these products by supporting their procurement by federal agencies. The IRA provides $2 billion for the U.S. Department of Transportation to incentivize the use of these materials in transportation projects[82] and $2.15 billion for the General Services Administration to use these materials in the construction or alteration of federal buildings.[83]

- *EPA efficient, accurate, and timely review*. This section provides EPA with $40 million to improve the efficiency of environmental reviews, permitting, and project approvals, including through the hiring and training of personnel, the development of environmental data or information systems, and increased public engagement and transparency.[84]

III. Alignment With Justice40

In January 2021, President Biden announced the Justice40 Initiative to ensure that 40% of the overall benefits of relevant federal investments flow to disadvantaged communities, and to track performance toward that goal through the establishment of an Environmental Justice Scorecard.[85] Many provisions of the IRA align with the principles of the Justice40 Initiative, as explained below.

These provisions needed to be crafted carefully not only for Byrd Rule considerations, but because of potential legal challenges. More than one year before the IRA, Congress enacted the American Rescue Plan Act (ARP),[86] which was also passed under the Senate's budget reconciliation rules. The ARP included a loan forgiveness program, administered by the U.S. Department of Agriculture (USDA),

75. H.R. 133, 116th Cong. §103 (2021).
76. IRA, Pub. L. No. 117-169, §60109, 136 Stat. 1818 (2022).
77. *Id.* §60110.
78. These EPA databases contain compliance and permit data for sources of pollution. *See* U.S. EPA, *ICIS-AIR Overview*, https://www.epa.gov/enviro/icis-air-overview (last updated Oct. 27, 2022); U.S. EPA, *PCS-ICIS Overview*, https://www.epa.gov/enviro/pcs-icis-overview (last updated Oct. 27, 2022).
79. IRA, Pub. L. No. 117-169, §60111, 136 Stat. 1818 (2022).
80. *Id.* §60112.
81. *Id.* §60116.
82. *Id.* §60506.
83. *Id.* §60503.
84. *Id.* §60115.
85. Exec. Order No. 14008, §223, 86 Fed. Reg. 7619, 7632 (Feb. 1, 2021).
86. Pub. L. No. 117-2, 135 Stat. 4 (2021).

which specifically targeted relief to farmers "who belong[ ] to a group 'subjected to racial or ethnic prejudice.'"[87]

Several courts enjoined USDA from making payments under this program pending litigation challenging the program on equal protection grounds.[88] Federal courts apply "strict scrutiny" to racial classifications such as those used in the ARP loan forgiveness program. After examining the evidence before Congress, the courts hearing challenges to the ARP program found at the preliminary injunction stage that the federal government had not demonstrated a "compelling interest for considering race" or that the program was "narrowly tailored."[89]

This experience reminded Congress of the potential for litigation to significantly slow or even derail implementation were the IRA not drafted in a race-neutral fashion. Accordingly, in the clean air provisions of the IRA, Congress pursued alignment with the executive branch's Justice40 Initiative in race-neutral ways.[90] In many provisions, as noted above, funds are appropriated specifically for low-income and disadvantaged communities, such as the Greenhouse Gas Reduction Fund, in which $15 billion of the total $27 billion is appropriated for low-income and disadvantaged communities. In some of the CAA Amendments of 2022, such as new §132, Clean Heavy-Duty Vehicles, 40% of the total funds were appropriated to benefit communities in nonattainment areas, thus taking advantage of the program's placement in the CAA by using that Act's terminology.[91]

Congress also took a broader lens to its alignment with the Justice40 Initiative as well, such as in appropriating $3 billion to carry out activities that benefit disadvantaged communities—as defined by the EPA Administrator—in new CAA §138, Environmental and Climate Justice Block Grants. In developing §138, Congress was aware of the Council on Environmental Quality's (CEQ's) efforts to develop a climate and economic justice screening tool to identify disadvantaged communities,[92] and chose to support those efforts with funding in the IRA[93] in expectation of synergies between §138 and CEQ's program.

Smaller provisions such as the DERA appropriations were also tied to low-income and disadvantaged communities, and others, such as the $170 million for air quality monitoring, while only partially targeted are expected to significantly benefit low-income and disadvantaged communities.

Finally, it is worth noting that while Congress specifically appropriated funds to benefit low-income and disadvantaged communities, there are no restrictions in the IRA that would prevent EPA from awarding additional unrestricted funds to benefit those communities.

IV. Major Implications of the IRA

By enacting the provisions described above, Congress has removed any doubt that reducing GHG emissions is a core goal of the CAA. In addition to the unprecedented resources and new programmatic duties established by those specific provisions, the IRA has three broader implications. First, the IRA codifies in the CAA that carbon dioxide and other GHGs are "air pollutants" under the Act. This statutorily affirms the Court's holding in *Massachusetts v. Environmental Protection Agency*,[94] and should influence how the courts interpret the central authorities of the CAA.

Second, the funding provided by the IRA will allow EPA to increase the ambition of its CAA rulemakings, by lowering costs and demonstrating the feasibility of pollution control technologies.

Third, the language in the IRA confirms the applicability of the CAA to GHGs in three important specific areas: California's ability to regulate GHG emissions from vehicles; EPA's authority to regulate methane emissions from oil and gas facilities; and EPA's authority to regulate GHG emissions from power plants.

Each of these implications is discussed in turn below.

A. *Reflecting* Massachusetts v. Environmental Protection Agency *in the CAA*

Massachusetts, which determined that the CAA's definition of "air pollutant" includes GHGs, had been settled law for 15 years by the time Congress considered the IRA.[95] Yet prior to passage of the IRA, there was an effort by some to argue that *Massachusetts* was wrongly decided and should be reversed. The language in the IRA should foreclose this argument, because it makes clear that carbon dioxide and five other GHGs are "air pollutants."

Some have never conceded the outcome of *Massachusetts*. For example, EPA's denial of a 2017 petition to reconsider EPA's endangerment findings, based in part on the argument that *Massachusetts* was wrongly decided, is now being litigated.[96] There is some interest among Supreme Court

87. Christine J. Back & April J. Anderson, Congressional Research Service, The American Rescue Plan Act: Equal Protection Challenges 2-3 (2021), https://crsreports.congress.gov/product/pdf/LSB/LSB10631.
88. *Id.* at 3; *see also id.* at 1-2 (explaining equal protection principles).
89. *Id.* at 1-2, 3-4.
90. "At least one potential legislative option . . . to avoid triggering strict (or intermediate) scrutiny is to target relief based on race- or sex-neutral characteristics." *Id.* at 4.
91. Other similar terms, such as "disadvantaged and underserved communities," find their roots in the lexicon of implementing agencies. *See* IRA, Pub. L. No. 117-169, §60501, 136 Stat. 1818 (2022) (the Neighborhood Access and Equity Grant Program, administered by the Federal Highway Administration).
92. *CEQ Publishes Draft Climate and Economic Justice Screening Tool, Key Component in the Implementation of President Biden's Justice40 Initiative*, White House (Feb. 18, 2022), https://www.whitehouse.gov/ceq/news-updates/2022/02/18/ceq-publishes-draft-climate-and-economic-justice-screening-tool-key-component-in-the-implementation-of-president-bidens-justice40-initiative/.
93. Pub. L. No. 117-169, §60401, 136 Stat. 1818 (2022).
94. 549 U.S. 497, 37 ELR 20075 (2007).
95. *Id.*
96. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Action on Petitions, 87 Fed. Reg. 25412 (Apr. 29, 2022). When EPA denied that petition in April 2022, the petitioners commenced legal action in the D.C. Circuit. Brief for Petitioner, Concerned Household Elec. Consumers Council v. Environmental Prot. Agency, No. 22-1139 (D.C. Cir. Oct. 14, 2022).

Justices in revisiting the decision. In a concurring opinion in *American Electric Power Co. v. Connecticut*, Justices Samuel Alito and Clarence Thomas indicated receptivity to reconsidering *Massachusetts*.[97] In *Utility Air Regulatory Group v. Environmental Protection Agency*, they argued that *Massachusetts* "was wrongly decided at the time."[98]

Some in Congress have attempted to legislatively reverse *Massachusetts* over the years, but those attempts have always failed.[99] Since *Massachusetts* was decided, EPA has accordingly implemented the CAA, issuing findings of endangerment to human health and the environment for emissions of six GHGs from mobile sources, new power plants, aviation, and the oil and gas sector.[100] These six GHGs are carbon dioxide, HFCs, methane, nitrous oxide, perfluorocarbons, and sulfur hexafluoride.

The CAA Amendments of 2022 apply, in various instances, to air pollutants, criteria air pollutants, hazardous air pollutants, and GHGs. In drafting the amendments, Congress faced an important challenge—how to craft the new provisions in a way that would not upset *Massachusetts* or other important preexisting interpretations of the CAA. Congress had to be careful, for example, to ensure that the IRA amendments to the CAA were not drafted in a manner that would invite the reopening of *Massachusetts* by suggesting that GHGs were not air pollutants.

As passed by the House in November 2021, the proposed amendments to the CAA did not define the term "greenhouse gas." Instead, the text generally referred to "greenhouse gas air pollution," "greenhouse gas emissions," or simply "greenhouse gases."[101] The one exception to this was in the provision relating to pollution reduction at ports, which contained a reference to "any greenhouse gas other than water vapor."[102]

As the reference to water vapor makes clear, there are substances in addition to the six GHGs identified in EPA's endangerment findings that are GHGs from a scientific standpoint.[103] As scrutiny under the Byrd Rule intensified in the Senate, the use of the term "greenhouse gas" raised questions. Would the House-passed provisions expand the types of GHGs EPA had sought to regulate? Could it have unintended effects on the use of IRA funding by making resources available to address a list of pollutants that was too expansive? Does identifying GHGs and air pollutants in parallel fashion suggest that they are two distinct, nonoverlapping categories?

Whether or not these questions pointed to genuinely problematic ambiguities, the first publicly released version of the Senate amendment to the reconciliation bill sought to bring clarity to the issue by including a GHG definition used repeatedly throughout the draft provisions amending the CAA.[104] Adding such a definition was permissible under the Byrd Rule because that definition was a necessary term and condition for the provisions that appropriated funding. That definition simply stated that the term "greenhouse gas" would have the "meaning given the term in section 211(o)(1)(G) (as in effect on the date of enactment of this section)."[105] Section 211(o)(1)(G) provides that "[t]he term 'greenhouse gas' means carbon dioxide, hydrofluorocarbons, methane, nitrous oxide, perfluorocarbons, sulfur hexafluoride. The Administrator may include any other anthropogenically-emitted gas that is determined by the Administrator, after notice and comment, to contribute to global warming."

Some negotiators raised questions about this definition during the Byrd Rule review process. For instance, §211(o) contains a provision that states, "Nothing in this subsection . . . shall affect or be construed to affect the regulatory status of carbon dioxide or any other greenhouse gas, or to expand or limit regulatory authority regarding carbon dioxide or any other greenhouse gas, for purposes of other provisions (including section 7475) of this chapter."[106] A question was raised about whether using the §211(o)(1)(G) definition would be at odds with this existing congressional direction on interpretation. Additionally, a concern was raised that referencing the §211(o)(1)(G) definition could inadvertently allow EPA to bypass the endangerment findings typically required for regulation. As a result, congressional negotiators agreed to simply include a definition of "greenhouse gas" in each new CAA section, identifying the specific pollutants that EPA had previously identified as endangering public health and welfare.

This approach offered the benefit of ensuring that IRA resources provided through the new CAA sections would not be expended to address GHGs of less concern, such as water vapor. It also comported with the Byrd Rule, which precluded Congress from amending the general definitions section of the CAA in a reconciliation bill. Congress was able to draft the IRA amendments in a way that limited the GHGs to be addressed to a smaller set than the entire universe of heat-trapping gases, while restating in statutory language the key holding of *Massachusetts*. Congress used essentially two drafting formulations to accomplish this result.

First, in each of the CAA Amendments of 2022, the term "greenhouse gas" is defined as "the air pollutants carbon dioxide, hydrofluorocarbons, methane, nitrous

97. 564 U.S. 410, 430, 41 ELR 20210 (2011).
98. 573 U.S. 302, 343, 44 ELR 20132 (2014).
99. *See, e.g.*, S.J. Res. 26, 111th Cong. (2010); H.R. 910, 112th Cong. (2011); S. 482, 112th Cong. (2011); S. Amend. 183 to S. 493, 112th Cong. (2011).
100. 74 Fed. Reg. 66496 (Dec. 15, 2009); 80 Fed. Reg. 64510 (Oct. 23, 2015) (cites the same definition, *id*. at 64527, though the brief discussion of the danger from power plant emissions focuses on carbon dioxide alone); 81 Fed. Reg. 54422 (Aug. 15, 2016); 81 Fed. Reg. 35824, 35830 (June 3, 2016); *see also id*. at 35843 (making an alternative endangerment finding, but concluding that such a finding was not legally required).
101. *See* H.R. 5376, 117th Cong. (2021) (House engrossed version).
102. *Id*. §30102.
103. *See*, *e.g.*, Gunnar Myhre et al., *Anthropogenic and Natural Radiative Forcing*, *in* Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change 659, 720 (T.F. Stocker et al. eds., Cambridge Univ. Press 2013), https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf at 720.
104. *See* Amendment in the Nature of a Substitute (ERN22335), *available at* https://www.democrats.senate.gov/imo/media/doc/inflation_reduction_act_of_2022.pdf.
105. *Id*.
106. CAA §221(o)(12).

oxide, perfluorocarbons, and sulfur hexafluoride." Because the IRA added this language to Title I of the CAA, and because the CAA's definition of "air pollutant" applies to that title,[107] the IRA further confirms that the six enumerated gases are "air pollutants" under the Act.

Second, Congress used wording elsewhere in the IRA to make apparent its understanding and intent that GHGs are air pollutants. A new CAA section provides funding for "community-led air and other pollution monitoring, prevention, and remediation, and investments in low- and zero-emission and resilient technologies and related infrastructure and workforce development that help reduce *greenhouse gas emissions and other air pollutants*."[108] Similarly, in a freestanding section addressing air pollution in schools, EPA was authorized to provide funding "for grants and other activities to monitor and reduce *greenhouse gas emissions and other air pollutants* at schools in low-income and disadvantaged communities."[109]

These textual formulations reflected the *Massachusetts* understanding that GHGs are a subset of the category of air pollutants.[110] Additionally, the text of new §137 appropriating $5 billion to support development and implementation of climate pollution reduction plans consistently references "greenhouse gas air pollution," specifying the type of air pollution for which funding is provided.[111]

This drafting approach codified in statute the law as it had been interpreted for 15 years. Congress in the IRA did not grant new authority to regulate GHGs under §202 of the CAA. Indeed, the rules of the Senate would make it difficult to provide that authority in a reconciliation bill. What Congress could and did do is draft the CAA Amendments to reflect current law and enshrine that understanding in statute. The chair of the Senate Environment and Public Works Committee stated after the IRA passed, "The language, we think, makes pretty clear that greenhouse gases are pollutants under the Clean Air Act."[112]

The new language in the IRA does not mean that every mention of "air pollutant" in the CAA will be interpreted to apply to GHGs. In *Utility Air Regulatory Group*, the Supreme Court recognized that "[o]ne ordinarily assumes 'that identical words used in the same act are intended to have the same meaning.'"[113] The Court deviated from this rule only because the statutory context was fundamentally different and "calamitous consequences" would result.[114] Congress has now enshrined in law its agreement that GHGs are "air pollutants." That should be the rule for the CAA barring overwhelming contextual or structural counter-indications.

B. *Integrating Direct Spending and Regulatory Programs*

The new provisions in the IRA and the resources they provide can play an important role in pushing forward technology deployment. Yet, they are not intended to function alone. The IRA not only leaves in place existing CAA regulatory authorities that apply to GHGs and other air pollution, in numerous respects it bolsters and enhances the effectiveness of those authorities. Years after EPA acted to regulate GHG emissions from renewable fuels, vehicles, new large stationary sources, new and modified fossil fuel-fired power plants, the oil and gas industry, landfills, and aircraft engines, Congress has now built on that foundation with new complementary financial resources that will enable EPA to accelerate the use of the CAA's technology-forcing authorities.

Congress has taken a similar approach to addressing environmental challenges in the past, with programs that deliver financial assistance working in tandem with regulatory obligations. Congress first addressed water pollution in the Federal Water Pollution Control Act of 1948 (FWPCA).[115] In the 1972 Amendments, Congress began offering construction grants for sewage treatment plants.[116] Then, in the 1987 Amendments to the Clean Water Act, Congress established the Clean Water State Revolving Fund as a more expansive financial assistance program for a wide range of water infrastructure projects.[117] The Safe Drinking Water Act (SDWA) was first enacted in 1974 to protect public health.[118] Twenty-two years later, in 1996, Congress established the Drinking Water State Revolving Fund to assist with the construction of drinking water infrastructure.[119]

The CAA was originally enacted in 1970,[120] and Congress has provided some federal financial incentives for air pollution control over the years. For example, in 2005, Congress established DERA to provide financial assistance

107. *Id.* §302.
108. IRA, Pub. L. No. 117-169, §60201, 136 Stat. 1818 (2022) (emphasis added).
109. *Id.* §60106 (emphasis added).
110. This formulation was also used in §60501, which amended Title 23 to create a new program implemented by the Secretary of Transportation. But note that §50144, relating to a U.S. Department of Energy loan guarantee program, included the phrase "air pollutants or anthropogenic emissions of greenhouse gases." Outside of the context of the CAA and EPA, these examples have less, if any, relevance to interpretation of the CAA.
111. IRA, Pub. L. No. 117-169, §60114, 136 Stat. 1818 (2022).
112. Lisa Friedman, *Democrats Designed the Climate Law to Be a Game Changer. Here's How.*, N.Y. Times (Aug. 22, 2022), https://www.nytimes.com/2022/08/22/climate/epa-supreme-court-pollution.html.
113. 573 U.S. 302, 319, 44 ELR 20132 (2014).
114. *Id.* at 321-22. The Court noted that interpreting the term "air pollutant" in the permitting context identically with how the term is used elsewhere in the Act would be crushingly expensive, burdensome—including orders-of-magnitude increases in the number of covered sources and the costs of control—and thereby "undermine" Congress' goals for the CAA. At the same time, the Court upheld as consistent with the Act EPA regulations requiring that sources already subject to regulation under the Act based on their non-GHG emissions must reduce their GHG emissions with the "best available control technology."
115. Pub. L. No. 80-845, 62 Stat. 1155 (1948); 33 U.S.C. §§1251-1387, ELR Stat. FWPCA §§101-607.
116. Pub. L. No. 92-500, 86 Stat. 816 (1972).
117. Pub. L. No. 100-4, 101 Stat. 7 (1987).
118. Pub. L. No. 93-523, 88 Stat. 1660 (1974); 42 U.S.C. §§300f to 300j-26, ELR Stat. SDWA §§1401-1465.
119. Pub. L. No. 104-182, 110 Stat. 1613 (1996).
120. Pub. L. No. 91-604, 84 Stat. 1676 (1970).

to help reduce pollution from diesel engines.[121] Additionally, Congress established tax credits for zero emission electric vehicles in 2009.[122] In each of these cases, Congress did not abandon or relax regulation of wastewater, drinking water, or air emissions when deciding to supplement regulatory authority with financial incentives.

Congress' decision to provide hundreds of billions of dollars in the IRA to address the climate crisis also has direct and important consequences for EPA rulemakings. Many EPA authorities require consideration of cost, technical feasibility of pollution control, and an analysis of baseline conditions.[123] The IRA investments help demonstrate technology and bring down cost curves, which makes it easier for EPA to justify more stringent regulatory requirements under existing regulatory authorities. For example, the IRA changes the economics of carbon capture and sequestration across multiple applications. In transportation, the IRA's investments dramatically heighten expectations of the deployment of zero emission heavy-duty vehicles, and EPA has already announced that it will split off GHG standards from a heavy-duty vehicles rulemaking addressing emissions of nitrogen oxides in order to issue more stringent GHG standards given the new reality created by the IRA.[124]

This dynamic could play out across a panoply of CAA regulatory standards.[125] For example, the combination of the IRA's incentives for electric vehicles, electric vehicle charging infrastructure, and support for state GHG and zero emission standards could lead EPA to determine under §202 of the Act that less lead time is necessary to bring an increasing percentage of ZEVs to market.[126]

Similarly, IRA incentives for clean power generation and carbon capture could significantly affect state and federal determinations about what constitutes "best available control technology," which must be installed by new major sources of pollution in attainment areas.[127] These determinations are based upon the achievable level of emissions reduction given cost and other factors.[128] A recent analysis of the cost impacts of the IRA found that the average cost of clean electricity generation and storage technologies would cause a double-digit percentage decline in the average cost of electricity over the lifetime of a facility relative to their pre-IRA counterparts.[129] As part of the preconstruction permitting process under the Prevention of Significant Deterioration program, a state permitting agency could examine a proposed fossil-fueled electricity generating project and determine that a zero emitting facility is "warranted and appropriate" as "best available control technology."[130]

Setting standards of performance under §111 is a key regulatory tool for addressing GHG emissions from existing stationary sources of air pollution.[131] EPA determines an appropriate performance standard by examining the "degree of emission limitation achievable through the application of the best system of emission reduction."[132] To identify this "best system," EPA must consider the cost of achieving such reductions, and must determine that such reductions have "been adequately demonstrated."[133]

Accelerated investment in pollution control technology could improve both the affordability and demonstrability of emissions reductions. The recent Supreme Court decision in *West Virginia* determined that EPA could not use the authority of §111 to impose a cap-and-trade program that transforms the nation's energy system, but left the authority to impose pollution controls intact.[134] The virtuous interaction between incentives and standard-setting described here can deliver accelerated emissions reductions of both GHGs and conventional pollution.

Investment in subnational climate mitigation efforts could also play a beneficial role in federal standard-setting. For example, funds provided through the climate pollution reduction grants in the IRA can help states, municipalities, and Indian tribes innovatively achieve emissions reductions. In turn, those entities' efforts will demonstrate the feasibility of technology that can then be required at the federal level. A similar dynamic could occur as a result of projects encouraged through the IRA's tax provisions, which could help scale and commercialize new renewable energy technologies.

Finally, Congress has brought a new focus on zero emission technology to the CAA that was previously lacking. When Congress passed the CAA Amendments of 1990,[135] it included language specifically recognizing California's new ZEV mandate.[136] The Act, otherwise, did not include explicit congressional direction to focus on zero emission technological solutions prior to enactment of the IRA. The CAA's broad regulatory authority implicitly encompassed zero emission technologies, and EPA has adopted regulatory policies that encourage zero emission technology in rulemakings.[137]

121. Subtitle G of Title VII, Pub. L. No. 109-58, 119 Stat. 594 (2005).
122. Pub. L. No. 110-343, 122 Stat. 3765 (2008).
123. *See*, *e.g.*, CAA §§111(a)(1), 169(3) ("best available control technology"), 202(a)(2), 202(a)(3)(B)(i).
124. David Shepardson, *U.S. EPA to Set Tougher Heavy Duty Emissions Rules in 2023*, Reuters (Nov. 3, 2022), https://www.reuters.com/business/environment/us-epa-set-tougher-heavy-duty-emissions-rules-2023-2022-11-03/.
125. Unlike the Clean Coal Power Initiative, established in the Energy Policy Act of 2005, Congress has expressed no concern about federal incentives for technology being used to support determinations of demonstrability or achievability. *See* 42 U.S.C. §15962(i).
126. CAA §202(a)(2) (codified at 42 U.S.C. §7521(a)(2)).
127. *Id.* §165 (codified at 42 U.S.C. §7475).
128. *Id.* §169(3) (codified at 42 U.S.C. §7479(3)).
129. Ian Bowen et al., *How Clean Energy Economics Can Benefit From the Biggest Climate Law in US History*, ICF (Sept. 16, 2022), https://www.icf.com/insights/energy/clean-energy-economic-benefits-us-climate-law.
130. *See* U.S. EPA, New Source Review Workshop Manual (Draft) B.13 (1990), https://www.epa.gov/sites/default/files/2015-07/documents/1990wman.pdf.
131. CAA §111 (codified at 42 U.S.C. §7411).
132. *Id.* §111(a)(1) (codified at 42 U.S.C. §7411(a)(1)).
133. *Id.*
134. 142 S. Ct. 2587, 52 ELR 20077 (2022).
135. Pub. L. No. 101-549, 104 Stat. 2648 (1990).
136. 42 U.S.C. §7586(f)(4).
137. *See, e.g.,* Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25324 (May 7, 2010) (recognizing ZEV technology for regulatory compliance).

The IRA directs EPA to support zero emission technologies for heavy-duty vehicles[138] and port equipment,[139] to reduce emissions in low-income and disadvantaged communities,[140] as well as to support state ZEV requirements.[141] This is a recognition of the evolving importance and availability of zero emission technologies.

C. *Buttressing Current Legal Interpretations*

In addition to providing a foundation for more ambitious regulations that better protect and deliver more benefits to low-income and disadvantaged communities, the CAA Amendments of 2022 buttress current law by codifying several critical judicial precedents and Agency interpretations relating to climate change. Specifically, the IRA demonstrates congressional support for state and federal regulation of GHG emissions from mobile sources,[142] the application of §111 of the CAA to GHG emissions from the oil and gas sector,[143] and EPA's authority and duty to address GHG emissions from the power sector.[144] We describe these provisions below.

1. Confirming How the CAA Applies to State and Federal Regulation of GHG Emissions From Mobile Sources

Congress included a provision in the IRA to encourage states to adopt and enforce GHG and zero emission standards for mobile sources pursuant to existing authority under the CAA.[145] This provision (referred to below as the "State ZEV Provision") appropriates $5 million to provide grants to states "to adopt and implement greenhouse gas and zero emission standards for mobile sources pursuant to §177 of the Clean Air Act (42 U.S.C. 7507)."[146] In addition to the funding, the State ZEV Provision affirms EPA's current and longest-standing legal interpretations of how the CAA governs state and federal regulation of GHG emissions from mobile sources.

The following legal conclusions are all necessary preconditions for state adoption of GHG and zero emission standards pursuant to §177:

1. States would ordinarily be preempted from establishing GHG and zero emission standards under §209(a) of the CAA;
2. Section 209(b) of the CAA authorizes EPA to waive preemption of state GHG and zero emission standards; and
3. States are not preempted from establishing GHG and zero emission standards by the Energy Policy and Conservation Act (EPCA) of 1975.

Each of these three necessary preconditions reflect the current prevailing interpretation of the law. With enactment of the IRA's State ZEV Provision, Congress relies upon and endorses these important legal interpretations.

Section 177 is only available for state emission standards ordinarily preempted by §209(a) of the CAA, which specifies that "[n]o State . . . shall adopt or attempt to enforce under the Clean Air Act, any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part."[147] The Act defines an "emission standard" to include state requirements that limit emissions of "air pollutants."[148] Therefore, for the state GHG and zero emission standards to be preempted under §209(a), it is a necessary precondition that GHGs are air pollutants and that EPA can establish GHG and zero emission standards pursuant to the CAA.

If GHGs were not considered to be air pollutants or EPA could not regulate GHGs from motor vehicles pursuant to the CAA, then §177 would not apply to state GHG and zero emission standards because such standards for motor vehicles would not be preempted by §209(a). As discussed above, the Supreme Court has determined that GHGs are air pollutants under the Act.[149] The D.C. Circuit confirmed that EPA could establish GHG emissions standards pursuant to §202 of the CAA, finding that EPA's interpretation to do so was "unambiguously correct."[150]

It is also a necessary precondition for the State ZEV Provision to function that §209(b) of the CAA provides for EPA to waive preemption of state GHG and zero emission standards. Section 209(b) requires the EPA Administrator to waive federal preemption of California vehicle emissions standards when certain conditions are met.[151] Since 1968, EPA has waived preemption of California vehicle standards more than 70 times.[152] Moreover, the Agency has repeatedly waived preemption of California GHG and zero emission standards specifically.[153]

Once EPA waives preemption of a set of California emissions standards, §177 of the CAA allows other states with air pollution problems to also adopt and enforce those same standards. By providing grants to states to adopt and implement California's GHG and zero emission standards for mobile sources, the State ZEV Provision makes clear that Congress endorses EPA's understanding that §177

138. CAA §132.
139. *Id.* §133.
140. *Id.* §§134 & 138.
141. IRA, Pub. L. No. 117-169, §60105(g), 136 Stat. 1818 (2022).
142. *Id.*
143. *Id.* §60113.
144. *Id.* §60107.
145. *Id.* §60105(g).
146. *Id.*
147. CAA §209(a) (codified at 42 U.S.C. §7543(a)).
148. *Id.* §302(k) (codified at 42 U.S.C. §7602(k)).
149. Massachusetts v. Environmental Prot. Agency, 549 U.S. 497, 37 ELR 20075 (2007).
150. Coalition for Responsible Regul., Inc. v. Environmental Prot. Agency, 684 F.3d 102, 42 ELR 20141 (D.C. Cir. 2012). In *Utility Air Regulatory Group*, the Supreme Court later overturned portions of this decision, but declined to review the court of appeal's ruling as it related to §202 of the CAA.
151. CAA §209(b) (codified at 42 U.S.C. §7543).
152. *See* U.S. EPA, *Vehicle Emissions California Waivers and Authorizations*, https://www.epa.gov/state-and-local-transportation/vehicle-emissions-california-waivers-and-authorizations (last updated June 13, 2022).
153. 74 Fed. Reg. 32744 (July 8, 2009); 78 Fed. Reg. 2112 (Jan. 9, 2013); 87 Fed. Reg. 14332 (Mar. 14, 2022).

allows states to adopt California's GHG and zero emission standards and that California itself can adopt GHG and zero emission standards. It also makes clear that Congress indeed favors the adoption of such standards by California and other states.

Finally, it is a necessary precondition to the provision's adoption that state GHG and zero emission standards are not preempted by the EPCA. The ability of states to adopt GHG and zero emissions standards has been litigated and upheld in two different federal district courts, which both considered and rejected arguments that state GHG emissions standards were preempted by the EPCA's language precluding states from establishing standards relating to fuel economy standards.[154] Informed by those judicial decisions, Congress enacted the Energy Independence and Security Act of 2007[155] to protect EPA's and California's authorities to regulate GHG emissions from mobile sources.[156] California has adopted and enforced GHG standards and a state ZEV mandate for many years. Here, too, Congress based the State ZEV Provision on affirming current law.

While the State ZEV Provision reflects a straightforward recognition of the current and most enduring interpretation of the CAA, it is still noteworthy because this legal interpretation was rejected by EPA at the end of the George W. Bush Administration in 2008 and during the Donald Trump Administration in 2019.[157] Both the 2008 and 2019 actions were short-lived and reversed before they could be reviewed by a court, due in no small part to their legal infirmities. Nevertheless, Congress has now reduced the likelihood of any future such attempts, and the attendant uncertainty and regulatory confusion that could ensue, by enshrining the current interpretation in law.

What the state ZEV provision does is use Congress' appropriations power to ratify EPA's interpretation of the CAA. Congress can confirm an executive authority by appropriating funding in specific ways that make its intentions to confirm the authority clear. As the Supreme Court stated in *Ex parte Endo*, Congress can confirm or ratify executive authority through an appropriation if "the appropriation . . . plainly show[s] a purpose to bestow the precise authority which is claimed."[158]

In cases like *Ex parte Endo* and *Tennessee Valley Authority v. Hill*,[159] where the appropriation is a lump sum that does not expressly fund the specific action in question, the Court has rejected finding confirmation in the appropriation. But where the appropriation has been explicit, such as in *Fleming v. Mohawk Wrecking & Lumber Co.* and *Brooks v. Dewar*, the Court has found confirmation.[160] As Justice Neil Gorsuch wrote in *Epic Systems Corp. v. Lewis*, "It is this Court's duty to interpret Congress's statutes as a harmonious whole rather than at war with one another."[161] If an appropriation expressly provides funding for an agency to carry out a specific action, a ruling that the agency lacks the authority to do so would conflict with the specific language of the appropriation, violating "guiding principles" of law.[162]

When reviewing for ratification by appropriation, courts have looked for two additional elements. First, courts require that the agency have at least an arguable basis for the action ostensibly being ratified.[163] Given the lengthy pedigree of the interpretation of how the CAA applies to state and federal GHG standards for mobile sources from 2009 to 2019 and the return to that understanding in 2022, and given the holding of *Massachusetts*, this element is easily met.

Second, ratification by appropriation "will not be accepted where prior knowledge of the specific disputed action cannot be demonstrated clearly."[164] While there was no live dispute around the legal interpretation at the time the IRA was enacted, Congress was well aware that the Trump Administration had attempted to reverse the decade-long understanding of the California waiver in 2019. The House Committee on Energy and Commerce held an oversight hearing about that reversal at which senior political appointees of the Trump Administration testified.[165] In addition, 118 members of the House and 29 senators objected at the time in a 2020 amicus brief in a D.C. Circuit case challenging the Trump Administration's action as "[c]ontrary to the letter and intent" of the law.[166]

Congress was not only aware of the previous controversy over the California waiver and adoption of the California GHG and ZEV standards by other states under §177. Congress also knew of the pronounced, ongoing shift toward vehicle electrification underway in the transportation sector, and specifically the potentially transformative effect of California's and EPA's vehicle regulations. In 2020, California's governor had issued an executive order direct-

154. Central Valley Chrysler-Jeep, Inc. v. Goldstene, 529 F. Supp. 2d 1151, 37 ELR 20309 (E.D. Cal. 2007); Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie, 508 F. Supp. 2d 295, 37 ELR 20232 (D. Vt. 2007).
155. Pub. L. No. 110-140, 121 Stat. 1492 (2007).
156. For a full discussion of the legislative and statutory history of state authority to set GHG standards, see Greg Dotson, *State Authority to Regulate Mobile Source Greenhouse Gas Emissions, Part 2: A Legislative and Statutory History Assessment*, 32 Geo. Env't L. Rev. 625 (2020).
157. 73 Fed. Reg. 12156 (Mar. 6, 2008); 84 Fed. Reg. 51310 (Sept. 27, 2019).
158. 323 U.S. 283, 303 n.24 (1944).
159. 437 U.S. 153, 8 ELR 20513 (1978).
160. Brooks v. Dewar, 313 U.S. 354 (1941) (holding that Congress had ratified the Secretary of the Interior's construction of the Taylor Grazing Act by appropriating funds collected pursuant to the Secretary's interpretation); Fleming v. Mohawk Wrecking & Lumber Co., 331 U.S. 111 (1947) (finding Congress had ratified a presidentially created temporary controls administrator by recognizing the office in an appropriations bill).
161. 138 S. Ct. 1612 (2018).
162. *See* U.S. Government Accountability Office, Principles of Federal Appropriations Law 2-57 to 2-60, 2-72 to 2-76 (2016).
163. D.C. Fed'n of Civic Ass'ns v. Airis, 391 F.2d 478, 481 (D.C. Cir. 1968).
164. *Id.* at 482.
165. *Driving in Reverse: The Administration's Rollback of Fuel Economy and Clean Car Standards: Hearing Before the Subcommittees on Consumer Protection and Commerce & Environment and Climate Change of the House Committee on Energy and Commerce*, 116th Cong. (2019), https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=109670.
166. Brief of Amici Curiae Members of Congress in Support of Petitioners at 5, Union of Concerned Scientists v. National Highway Traffic Safety Admin., No. 19-1230 (D.C. Cir. filed July 6, 2020), https://law.ucla.edu/sites/default/files/PDFs/Publications/Emmett%20Institute/Members%20of%20Congress%20Amicus%20Brief%20-%20Filed.pdf.

ing the California Air Resources Board to require all new vehicles to be ZEVs by 2035.[167]

In April 2021, the chairman of the Senate Environment and Public Works Committee stated, "The auto industry recognizes that their future is zero emission vehicles," and urged EPA to set emissions standards that would "result in 50 percent of new vehicles being zero emission vehicles by 2030 and all new vehicles being zero emission vehicles by 2035."[168] President Biden issued an Executive Order calling for one-half of all new light-duty vehicles to be ZEVs by 2030 and directing EPA to use its authority under the CAA to regulate GHGs.[169] In further support for this transition, Congress included substantial incentives in the tax title of the IRA to facilitate the transition to ZEVs.[170]

Thus, all of the criteria for a congressional ratification of executive authority through appropriation are present here. Congress has incorporated into the new statute measures that necessarily depend upon and approve existing regulatory understandings that both EPA and California may control emissions of GHGs and other pollutants by reliance on zero emissions technologies, and that other states may adopt California's GHG and zero emission vehicle standards under §177.

2. Affirming Regulation of GHG Emissions From the Oil and Gas Sector

The Methane Emissions Reduction Program in new §136 of the CAA combines investment, improved monitoring, internalization of pollution costs, and regulation to address methane emissions from the oil and gas sector. With this section, Congress pointedly confirms its agreement with EPA's conclusion that §111 of the CAA applies to GHGs.

Section 136(f)(6) explains how the new fee on methane emissions relates to regulation of those emissions from oil and gas systems pursuant to §111 of the CAA. Paragraph (6) provides that the charge remains in place until the EPA Administrator determines the following:

1. EPA has approved state plans pursuant to EPA regulations issued under subsections (b) and (d) of §111;
2. Those plans are in effect in *all* states with respect to applicable oil and gas facilities; and
3. Compliance with the federal regulations and state plans "will result in equivalent or greater emissions reductions as would be achieved by the proposed rule of the Administrator entitled 'Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review' (86 Fed. Reg. 63110 (November 15, 2021))."

As House Committee on Energy and Commerce Chairman Frank Pallone Jr. (D-N.J.) explained in a floor statement, "Once the Administrator makes the appropriate determination, the exemption may be applied to any applicable facility subject to and compliant with methane standards pursuant to CAA Section 111."[171]

This provision enacts into statute Congress' agreement with EPA's conclusion that §111 applies to GHG emissions from new and existing sources. According to Chairman Pallone, "Congress recognizes and reaffirms that regulation of methane from both new and existing oil and gas sources, including those located in the production, processing, transmission, and storage segments, is clearly authorized under CAA Section 111."[172]

Congress also sets a clear expectation of effectiveness for the regulations under §111. EPA estimates:

> The proposed rule would reduce 41 million tons of methane emissions from 2023 to 2035, the equivalent of 920 million metric tons of carbon dioxide. That's more than the amount of carbon dioxide emitted from all U.S. passenger cars and commercial aircraft in 2019. In 2030 alone, the rule would reduce methane emissions from sources covered in the proposal by 74 percent compared to 2005.[173]

EPA and the industry will have a strong incentive to adopt and support regulations at least as stringent as what was described in the proposal. This provision will likely also encourage states to adopt plans, in a timely manner, that will achieve the level of emissions reduction required by the final rule and can be approved by EPA. A rule that would not achieve at least the specified level of reduction or that is not adopted by all the relevant states would leave facilities subject to charges under §136 of the CAA (if emissions were above the thresholds) as well as regulatory obligations under §111.

167. California Exec. Order No. N-79-20 (2020), https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf; Fact Sheet, California Air Resources Board, Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20) (Jan. 19, 2021), https://ww2.arb.ca.gov/resources/fact-sheets/governor-newsoms-zero-emission-2035-executive-order-n-79-20.

168. Letter from Sen. Tom Carper, Chairman of the Senate Environment and Public Works Committee, to Michael Regan, Administrator, U.S. EPA (Apr. 29, 2021).

169. *Executive Order on Strengthening American Leadership in Clean Cars and Trucks*, White House (Aug. 5, 2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/08/05/executive-order-on-strengthening-american-leadership-in-clean-cars-and-trucks/.

170. Congress repealed the long-standing per-manufacturer phaseout once 250,000 vehicles were sold, indicating an appreciation of the transition of ZEVs from niche to mainstream.

171. 168 Cong. Rec. E869 (daily ed. Aug. 23, 2022) (statement of Rep. Frank Pallone Jr.).

172. *Id.* Congress had previously confirmed this understanding with passage of a resolution of disapproval relating to a deregulatory rule issued by EPA in 2019. S.J. Res. 14, 117th Cong. (2021).

173. *See* News Release, U.S. EPA, U.S. to Sharply Cut Methane Pollution That Threatens the Climate and Public Health (Nov. 2, 2021), https://www.epa.gov/newsreleases/us-sharply-cut-methane-pollution-threatens-climate-and-public-health.

3. Affirming EPA's CAA Duty to Reduce GHG Emissions From the Power Sector

The new Low Emissions Electricity Program, §135 of the CAA, affirms EPA's responsibility for decreasing GHG emissions from the domestic power sector. In it, Congress funds EPA to conduct a wide range of activities that will support and accelerate reductions in GHG emissions from the power sector, including funding the Agency specifically to use its CAA authorities to "ensure" that such reductions occur, which necessarily requires rulemaking.

Section 135 directs EPA to engage with the full range of stakeholders—consumers, low-income and disadvantaged communities, industry, and state, tribal, and local governments.[174] Congress provided the Agency with $68 million for education, partnerships, and technical assistance with these communities.[175]

Section 135 imposes on EPA a broad and comprehensive duty, instructing the Agency to focus on emissions related to the "generation" of electricity and also its "use." This spares EPA from having to unnecessarily cabin its examination of pollution and avenues for mitigation. It recognizes that more efficient use of electricity can reduce emissions just as cleaner sources of generation can.

Section 135(a)(5) requires EPA to assess GHG emissions reductions that will "result from changes in domestic electricity generation and use that are anticipated to occur on an annual basis through fiscal year 2031." Congress understood in requesting this assessment that the process of decarbonizing U.S. electricity production was already well underway and accelerating even prior to enactment of the IRA. In 2020, more than double the amount of electricity was produced from zero-carbon sources (including wind and solar, nuclear, hydropower, and geothermal) compared to burning coal.[176] Between 2015 and 2020, zero-carbon electricity generation grew by approximately 20% while coal-fired electricity generation declined by nearly 40%.[177]

By the time Congress passed the IRA, more than one-half the U.S. population was served by states or territories that had enacted laws or adopted goals to eliminate GHG emissions from the power sector.[178] Additionally, 75% of U.S. customer accounts are served by utilities with a 100% carbon-reduction target, or a utility owned by a parent company with a 100% carbon-reduction target.[179] And since 2015, expert projections of power-sector carbon emissions in 2030 under a business-as-usual scenario (i.e., no additional policies prior to passage of the IRA) have changed from an expected 17% decline from 2005 levels to an expected 46%-50% decline.[180] This indicates the rapid transition of the power sector to cleaner forms of energy production that is already occurring even prior to additional federal policy interventions. EPA is required to complete its assessment of anticipated emissions reductions within one year of enactment.[181]

Section 135(a)(6) builds off of this required assessment. This paragraph provides EPA with $18 million for the purpose of "ensur[ing] that reductions in greenhouse gas emissions are achieved through use of the existing authorities of this Act, incorporating the assessment."[182] By requiring a "reduction" that incorporates EPA's assessment, Congress is directing the Agency to use the authorities of the CAA to achieve greater reductions than would otherwise be achieved. Moreover, while the activities under the first four pots of funding would be expected to reduce GHG emissions from the power sector, none of those activities would mandate reductions. EPA will have to determine what combination of legally enforceable regulations and use of other authorities under the Act satisfy the requirement to "ensure" such reductions occur.

As Chairman Pallone stated, "CAA Section 111 is one of the 'existing authorities' funded by Section 60107 of this Act."[183] Other CAA authorities may also be used by the Agency to reduce emissions from the power sector. He elaborated, "Congress intends that EPA construe its authority under the existing CAA authorities broadly, consistent with the requirements of those authorities, so EPA can promulgate impactful and innovative regulations, as appropriate."[184]

This provision can be seen as a response to those who sought to convert the Supreme Court's decision in *West Virginia* into a categorical weakening of EPA's authority to use the CAA to reduce climate pollution. While the provision does not directly address the specific holding of that decision, it makes clear that Congress agrees that the CAA regulatory authorities apply to GHGs and directs EPA, backed by specially designated resources, to use its CAA authorities to achieve greater reductions in GHG emissions from the power sector than expected in the newly calcu-

174. CAA §135(a)(1)-(4).
175. *Id.*
176. U.S. Energy Information Administration, October 2022 Monthly Energy Review fig. 7.2 (2022), https://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf.
177. *Id.*
178. Clean Energy States Alliance, *Table of 100% Clean Energy States*, https://www.cesa.org/projects/100-clean-energy-collaborative/guide/table-of-100-clean-energy-states/ (last visited Nov. 3, 2022).
179. Smart Electric Power Alliance, *Utility Carbon-Reduction Tracker: Utilities' Path to a Carbon-Free Energy System*, https://sepapower.org/utility-transformation-challenge/utility-carbon-reduction-tracker/ (last visited Nov. 3, 2022).
180. U.S. EPA, Regulatory Impact Analysis for the Proposed Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations tbl. 1-3 (2015), https://archive.epa.gov/epa/sites/production/files/2015-08/documents/cpp-proposed-federal-plan-ria.pdf (projecting a 17% reduction in emissions from the power sector below 2005 levels in 2030 without additional action); John Larsen et al., Rhodium Group, Pathways to Building Back Better: Investing in 100% Clean Electricity (2021), https://rhg.com/research/build-back-better-clean-electricity/ (projecting emissions reductions from the power sector in the range of 46%-50% below 2005 levels in 2030 without additional action).
181. CAA §135(a)(5).
182. The House-passed version of this text required that emissions reductions be achieved "from domestic electricity generation and use." This phrase was deleted prior to Senate consideration, leaving open the possibility that these funds could be used to achieve GHG emissions reductions from outside the power sector.
183. 168 Cong. Rec. E869 (daily ed. Aug. 23, 2022) (statement of Rep. Frank Pallone Jr.).
184. *Id.* at E868.

lated baseline. This amounts to a significant new development in EPA's mandate to address climate pollution from power plants.

V. Statutory Interpretation and Reconciliation

The role of the courts is to interpret the law. A full discussion of differing judicial approaches to accomplishing this task is well beyond the scope of this Article. It suffices to say that even courts committed to a textualist approach accept that factors outside of the text can inform statutory interpretation. Among these factors is an understanding of the federal legislative process. The Supreme Court has recognized, for example, that the reconciliation process can limit congressional debate and result in "inartful drafting,"[185] and this can affect statutory interpretation. Accordingly, judges seeking to interpret the CAA Amendments of 2022 may wish to build on this recognition and familiarize themselves with the limitations of the reconciliation process.

Laws enacted through the reconciliation process are full-fledged statutes, having secured passage of both houses of Congress and approval by the president. They are every bit as binding as other acts of Congress. Still, the rules governing the reconciliation process can limit the tools Congress has to structure and draft text and express its intent. As discussed, the Byrd Rule applies constraints on what can be included in a reconciliation, but these constraints are enforced selectively. When senators fail to identify Byrd violations or choose not to raise a point of order, noncompliant language can be enacted as part of a reconciliation bill. Thus, some policy changes can be made through reconciliation simply due to lack of enforcement of the Byrd Rule.

Even when the Byrd Rule is being strictly adhered to, however, reconciliation bills can contain major policy changes. The Byrd Rule requirement that a budgetary effect of a provision cannot be merely incidental to any policy changes it contains is a balancing test. In general, the more budgetary effect, the more policy change is permissible under the Byrd Rule. Accordingly, the IRA contains policy changes large and small. These range from the decision to focus the IRA's appropriations for DERA funding on goods movement,[186] to creating new and complex programs that address methane pollution,[187] to enshrining Supreme Court decisions in statute.

While the permissibility of policy changes associated with budgetary provisions and their terms and conditions is determined by the Senate Parliamentarian's necessarily uncertain exercise of judgment, the Byrd Rule's prohibition on provisions without *any* budgetary effect is a brighter line of which courts should be aware. For example, with the definition of "greenhouse gas" now included in each of the new sections, a court may be invited to draw meaning from the exclusion of that defined term in other sections of the CAA. Such an approach would be erroneous, however, since the Byrd Rule prevented Congress from inserting extraneous matter, such as adding the definition of "greenhouse gas" to §202, §111, or other sections of the CAA because such amendment would have no budgetary effect, nor would it be a necessary term and condition.

Some may argue that the lesson of the IRA is that Congress intended to turn away from regulation in favor of financial incentives with this legislation. That would also be erroneous, given the budgetary nature of a reconciliation bill and the procedural limitations imposed by the reconciliation process. Of course, a budget reconciliation bill necessarily focuses on spending or raising money. But the statutory language, as examined above, reinforces and supplements, rather than supplants, EPA's regulatory authorities. As Chairman Pallone explained when the IRA passed the House, the IRA "reinforces the longstanding authority and responsibility of the [EPA] to regulate GHGs as air pollutants under the Clean Air Act."[188]

Many provisions of the IRA illustrate this fundamental point. As explained above, the methane emissions charge applies to a facility only until it is replaced by, and the facility complies with, fully implemented regulations under §111. The Low Emissions Electricity Program directs EPA to use its authorities, including regulatory authorities, to ensure reductions in emissions from the power sector. Congress relied upon and endorsed the state and federal regulatory landscape for tailpipe emissions, including regulations to reduce GHG emissions and requiring production of ZEVs. It also invested in EPA's enforcement tools used for regulatory violations.

Finally, Congress invested in the implementation of the AIM Act; while not part of the CAA, the AIM Act's historic programs to address climate super-pollutant HFCs is the most significant grant of regulatory power to EPA in recent history.[189] When viewed in light of the reconciliation process limitations, it becomes even clearer that there is no merit to any argument that Congress now disfavors regulation to address emissions of GHGs, including under existing CAA authorities.

In construing the CAA Amendments of 2022, courts should be aware of how the Byrd Rule fences off budgetary provisions alone for privileged treatment, while remaining cognizant that the IRA is every bit an act of Congress—pursuant to the U.S. Constitution, duly passed by both chambers of Congress, and signed into law by the president.

185. King v. Burwell, 576 U.S. 473, 491 (2015).
186. IRA, Pub. L. No. 117-169, §60104, 136 Stat. 1818 (2022).
187. *Id.* §60113.
188. 168 Cong. Rec. E868 (daily ed. Aug. 23, 2022) (statement of Rep. Frank Pallone Jr.).
189. This investment demonstrates that "Congress intends that EPA construe its authority under the AIM Act broadly . . . including adopting innovative and impactful requirements and successfully implementing those regulations to ensure that Congressional goals of addressing climate-damaging hydrofluorocarbons are achieved." *Id.* at E880.

VI. Conclusion

After years of trying and failing, Congress has enacted landmark legislation to tackle climate change. Through the CAA Amendments of 2022, Congress provides EPA with more than $41 billion to establish new programs and use existing ones. This new funding and authority, combined with the preexisting regulatory authority to address GHGs in the CAA, create a powerful set of tools to move the nation decisively forward on cutting climate-destabilizing air pollution.