

Greenhouse Gas Mitigation: CRS Products

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Members of Congress have historically expressed a range of perspectives regarding climate change issues. Legislative proposals have included carbon pricing frameworks (e.g., carbon taxes or cap-and-trade programs), sectoral approaches, research funding or tax policies that support greenhouse gas (GHG)-abating technology development and deployment, efforts to increase adaptation, and international cooperation. Other actions by Members have opposed some of these policy approaches, such as introduced resolutions that have expressed that multisector carbon pricing approaches are not in the economic interests of the United States.¹

Enacted laws in the 117th Congress addressing GHG mitigation included P.L. 117-169, commonly known as the “Inflation Reduction Act of 2022” (IRA), and the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58), among others. Provisions in these acts authorize and appropriate funding and provide financial incentives for programs and policies likely to directly or indirectly reduce GHG emissions. Other provisions in these acts may lead to increased GHG emissions in particular contexts.

In the 118th Congress, some Members introduced legislation to reduce emissions of GHGs. Proposals ranged in the scope of emissions covered, such as CO₂ emissions from fossil fuel combustion to multiple GHG emissions from a broader array of sources.²

Federal climate change policies have evolved and currently include a range of activities implemented under various legal authorities. Federal rulemakings that address GHG emissions have generated considerable interest, controversy, and court challenges. In some cases, the rulemakings are still under development and have not been implemented.³

To help provide context for considering legislative proposals and questions about executive actions and authorities, this report compiles a selection of CRS products on GHG-related policy, enacted and proposed legislation, executive branch actions, and programs for GHG mitigation.

Products are arranged alphabetically by title in nine categories:

1. **Agriculture, Oceans, and Forestry**, which includes products about carbon in soils, oceans, forests, and land;
2. **Carbon Capture and Sequestration**, which includes products about carbon dioxide capture and sequestration technology, policy, and finance;
3. **Carbon Pricing, Tax Policy, and Regulatory Approaches**, which includes products relating to domestic and international climate financial issues such as taxes, regulations, and carbon pricing;
4. **Climate Science**, which includes products presenting current findings in climate science and explaining scientific concepts used in climate mitigation policy;
5. **Electricity Sector**, which includes products that focus on mitigation options and issues specific to the electricity sector;
6. **Fossil Fuel Production**, which includes products related to domestic production of fossil fuels;
7. **Industry and Manufacturing**, which includes products about GHG mitigation in specific industries;

¹ CRS Report R46947, *U.S. Climate Change Policy*, coordinated by Richard K. Lattanzio.

² CRS Report R45472, *Market-Based Greenhouse Gas Emission Reduction Legislation: 108th Through 118th Congresses*, by Jonathan L. Ramseur.

³ CRS Report R47385, *U.S. Greenhouse Gas Emissions Trends and Projections from the Inflation Reduction Act*, by Jonathan L. Ramseur.

8. **International**, which includes products about international GHG mitigation and climate-related policy;
9. **Transportation**, which includes products about mitigation options for vehicles and fuels; and
10. **Cross-Cutting**, which includes products that cover multiple mitigation topics.

Selected CRS Products Relevant to GHG Mitigation

Agriculture, Oceans, and Forestry

CRS In Focus IF11693, *Agricultural Soils and Climate Change Mitigation*, by Megan Stubbs

CRS Report R48148, *Coastal Blue Carbon as a Carbon Dioxide Removal Approach: Selected Issues for Congress*, by Caitlin Keating-Bitonti and Eva Lipiec

CRS Report R46312, *Forest Carbon Primer*, by Katie Hoover and Anne A. Riddle

CRS Report R47172, *Geoengineering: Ocean Iron Fertilization*, by Caitlin Keating-Bitonti

CRS In Focus IF11404, *Greenhouse Gas Emissions and Sinks in U.S. Agriculture*, by Megan Stubbs

CRS Report R46952, *Reduction in Emissions from Deforestation and Forest Degradation (REDD+)*, by Pervaze A. Sheikh et al.

CRS Report R46313, *U.S. Forest Carbon Data: In Brief*, by Katie Hoover and Anne A. Riddle

Carbon Capture and Sequestration

CRS Report R44902, *Carbon Capture and Sequestration (CCS) in the United States*, by Angela C. Jones and Ashley J. Lawson

CRS Video WVB00491, *Carbon Capture and Sequestration in the United States*, by Angela C. Jones, Ashley J. Lawson, and Paul W. Parfomak

CRS Report R48258, *Carbon Dioxide Removal (CDR): Its Potential Role in Climate Change Mitigation*, by Jonathan D. Haskett

CRS In Focus IF11861, *DOE's Carbon Capture and Storage (CCS) and Carbon Removal Programs*, by Ashley J. Lawson

CRS Report R46192, *Injection and Geologic Sequestration of Carbon Dioxide: Federal Role and Issues for Congress*, by Angela C. Jones

CRS In Focus IF11455, *The Section 45Q Tax Credit for Carbon Sequestration*, by Angela C. Jones and Donald J. Marples

CRS Insight IN12269, *Siting Challenges for Carbon Dioxide (CO₂) Pipelines*, by Paul W. Parfomak

Carbon Pricing, Tax Policy, and Regulatory Approaches

CRS Report R48247, *Border Carbon Adjustments: Policy Considerations, Legislation, and Developments in the European Union*, by Jonathan L. Ramseur, Kristen Hite, and Christopher A. Casey

CRS Report R46766, *Climate Change Risk Disclosures and the Securities and Exchange Commission*, by Rena S. Miller, Gary Shorter, and Nicole Vanatko

CRS Report R45472, *Market-Based Greenhouse Gas Emission Reduction Legislation: 108th Through 118th Congresses*, by Jonathan L. Ramseur

CRS In Focus IF11791, *Mitigating Greenhouse Gas Emissions: Selected Policy Options*, by Jonathan L. Ramseur et al.

CRS In Focus IF12630, *The Possible Elimination of Chevron Deference: Potential Implications for Tax Revenue and Administration*, by Jane G. Gravelle, Donald J. Marples, and Benjamin M. Barczewski

CRS Legal Sidebar LSB10736, *Recent Litigation over the Social Cost of Greenhouse Gases*, by David Gunter and Adam Vann

CRS Report R41836, *The Regional Greenhouse Gas Initiative: Background, Impacts, and Selected Issues*, by Jonathan L. Ramseur

CRS In Focus IF11844, *Social Cost of Greenhouse Gases: Issues for Congress*, by Jonathan L. Ramseur

CRS Report R48095, *Voluntary Carbon Credit Markets and the Commodity Futures Trading Commission*, by Rena S. Miller and Jonathan L. Ramseur

Climate Science

CRS In Focus IF12072, *Advances in Satellite Methane Measurement: Implications for Fossil Fuel Industry Emissions Detection and Climate Policy*, by Jonathan D. Haskett

CRS In Focus IF12753, *Climate Change: What Are Net-Zero Emissions?*, by Jonathan D. Haskett

CRS In Focus IF12733, *Extreme Heat and Climate Change*, by Jonathan D. Haskett

CRS Report R47082, *Intergovernmental Panel on Climate Change: Sixth Assessment Report*, by Jonathan D. Haskett

CRS Report R47551, *Solar Geoengineering and Climate Change*, by Jonathan D. Haskett

Electricity Sector

CRS Report R46691, *Clean Energy Standards: Selected Issues for the 117th Congress*, by Ashley J. Lawson

CRS Report R45913, *Electricity Portfolio Standards: Background, Design Elements, and Policy Considerations*, by Ashley J. Lawson

CRS Report R46865, *Energy Tax Provisions: Overview and Budgetary Cost*, by Nicholas E. Buffie and Donald J. Marples

CRS Report R47561, *Greenhouse Gas Emissions in the U.S. Electricity Sector: Background, Policies, and Projections*, by Jonathan L. Ramseur

CRS Insight IN11980, *Offshore Wind Provisions in the Inflation Reduction Act*, by Laura B. Comay, Corrie E. Clark, and Donald J. Marples

CRS Report R46015, *The POWER Initiative: Energy Transition as Economic Development*, by Julie M. Lawhorn

CRS Report RS22858, *Renewable Energy R&D Funding History: A Comparison with Funding for Nuclear Energy, Fossil Energy, Energy Efficiency, and Electric Systems R&D*, by Corrie E. Clark

CRS Report R45453, *U.S. Carbon Dioxide Emissions in the Electricity Sector: Factors, Trends, and Projections*, by Jonathan L. Ramseur

Fossil Fuel Production

CRS Legal Sidebar LSB10289, *Drilling Under New Wyoming Leases on Hold as Judge Requires BLM to Reconsider Impacts on Climate Change*, by Adam Vann

CRS In Focus IF12134, *The Federal Role in Orphan Oil and Gas Well Reclamation*, by Lance N. Larson

CRS Report R44692, *Five-Year Offshore Oil and Gas Leasing Program: Status and Issues in Brief*, by Laura B. Comay

CRS Legal Sidebar WSLG1867, *How Far Down the Pipe? The D.C. Circuit Directs FERC to Consider Climate Change Concerns in Considering Natural Gas Pipeline Certification*, by Adam Vann

CRS Report R47206, *Inflation Reduction Act Methane Emissions Charge: In Brief*, by Jonathan L. Ramseur

CRS In Focus IF12217, *The Legal Framework for Federal Methane Regulation*, by Benjamin M. Barczewski

CRS Report R42986, *Methane and Other Air Pollution Issues in Natural Gas Systems*, by Richard K. Lattanzio

Industry and Manufacturing

CRS In Focus IF12273, *Ammonia's Potential Role in a Low-Carbon Economy*, by Lexie Ryan

CRS In Focus IF12602, *The Clean Hydrogen Production Credit: How the Incentives are Structured*, by Nicholas E. Buffie and Martin C. Offutt

CRS Report R47038, *The Department of Energy's Appliance and Equipment Standards Program*, by Martin C. Offutt

CRS In Focus IF12288, *Energy Transition: Affordability, Emissions, and Security*, by Brent D. Yacobucci, Corrie E. Clark, and Ashley J. Lawson

CRS In Focus IF12502, *The Section 45Z Clean Fuel Production Credit*, by Nicholas E. Buffie

International

CRS In Focus IF12037, *Approaches for the Sustainable Management of U.S. Ocean Waters and the Ocean Economy: Considerations for Congress*, by Caitlin Keating-Bitonti

CRS In Focus IF11878, *Climate and Security in the Middle East and North Africa*, by Jeremy M. Sharp, Nicole T. Carter, and Kezee Procita

CRS Report R46945, *Greenhouse Gas Emission Reduction Pledges by Selected Countries: Nationally Determined Contributions and Net-Zero Legislation*, by Kezee Procita and Claire M. Jordan

CRS In Focus IF12777, *Implications of the European Union Deforestation Regulation*, by Pervaze A. Sheikh and Kristen Hite

CRS In Focus IF12178, *India: Climate Change Issues*, by K. Alan Kronstadt, Claire M. Jordan, and Kezee Procita

CRS In Focus IF12300, *Indonesia: GHG Emissions and Climate Change Policy*, by Pervaze A. Sheikh et al.

CRS In Focus IF12324, *Loss and Damage Associated with the Effects of Climate Change: Recent Developments*, by Richard K. Lattanzio

CRS Report R48248, *Paris Agreement: Nationally Determined Contributions Conditional on International Support—In Brief*, by Claire M. Jordan

CRS Report R46204, *The United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement: A Summary*, by Richard K. Lattanzio

CRS In Focus IF12290, *The U.N. Climate Conference 2022 (COP27): Outcomes*, by Richard K. Lattanzio

CRS In Focus IF12652, *U.S. International Climate Finance: FY2025*, by Richard K. Lattanzio

CRS In Focus IF10763, *U.S. International Climate Finance: A Primer*, by Richard K. Lattanzio

Transportation

CRS In Focus IF11696, *Aviation, Air Pollution, and Climate Change*, by Richard K. Lattanzio

CRS Report R46420, *Environmental Effects of Battery Electric and Internal Combustion Engine Vehicles*, by Richard K. Lattanzio and Corrie E. Clark

CRS Report R47675, *Federal Policies to Expand Electric Vehicle Charging Infrastructure*, by Melissa N. Diaz and Corrie E. Clark

CRS In Focus IF12707, *Options for Railroad Electrification and Decarbonization*, by Ben Goldman

CRS Report R43325, *The Renewable Fuel Standard (RFS): An Overview*, by Kelsi Bracmort

CRS Report WPD00087, *Science and Technology Q&A: Emissions and the Rail Industry*, by Ben Goldman and Alice B. Grossman

CRS Video WVB00648, *Science and Technology Q&A: Emissions and the Rail Industry*, by Ben Goldman and Alice B. Grossman

CRS In Focus IF11921, *Surface Transportation and Climate Change: Provisions in the Infrastructure Investment and Jobs Act (P.L. 117-58)*, by William J. Mallett

CRS Report R47171, *Sustainable Aviation Fuel (SAF): In Brief*, by Kelsi Bracmort and Molly F. Sherlock

CRS In Focus IF12757, *Sustainable Aviation Fuel (SAF): An Overview of Current Laws and Legislation Introduced in the 118th Congress*, by Kelsi Bracmort

CRS In Focus IF12847, *Sustainable Aviation Fuel (SAF): Production Pathways*, by Kelsi Bracmort

CRS Video WVB00656, *U.S. Motor Vehicle Policy: Air Pollution, Greenhouse Gas, and Fuel Economy*, by Richard K. Lattanzio and Benjamin M. Barczewski

CRS Report R47820, *U.S. Postal Service Fleet Modernization*, by Melissa N. Diaz

Cross-Cutting

CRS In Focus IF12433, *Automobiles, Air Pollution, and Climate Change*, by Richard K. Lattanzio

CRS Report R46881, *The Bioeconomy: A Primer*, by Marcy E. Gallo

CRS Report R48168, *California and the Clean Air Act (CAA) Waiver: Frequently Asked Questions*, by Benjamin M. Barczewski, Richard K. Lattanzio, and Emily N. Peterson

CRS Report RL30853, *Clean Air Act: A Summary of the Act and Its Major Requirements*, by Richard K. Lattanzio

CRS Video WVB00356, *Climate Change Policy Issues Overview*, by Richard K. Lattanzio et al.

CRS Legal Sidebar LSB10805, *Climate Liability Suits: Is There a Path to Federal Court?*, by Benjamin M. Barczewski

CRS In Focus IF12387, *EPA's Greenhouse Gas Reduction Fund (GGRF)*, by Richard K. Lattanzio

CRS In Focus IF11754, *EPA's Greenhouse Gas Reporting Program*, by Angela C. Jones

CRS Report R47262, *Inflation Reduction Act of 2022 (IRA): Provisions Related to Climate Change*, coordinated by Jonathan L. Ramseur

CRS In Focus IF10752, *Methane Emissions: A Primer*, by Richard K. Lattanzio

CRS In Focus IF12487, *Office of the Special Presidential Envoy for Climate*, by Richard K. Lattanzio and Cory R. Gill

CRS Legal Sidebar LSB10791, *Supreme Court Addresses Major Questions Doctrine and EPA's Regulation of Greenhouse Gas Emissions*, by Kate R. Bowers

Author Information

Jonathan D. Haskett
Analyst in Environmental Policy

Claire M. Jordan
Senior Research Librarian

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