

2023 IN REVIEW

A Year of Federal Climate Investments

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Executive Summary

In 2023, the implementation of the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) ramped up. As the dissemination of federal funding scales, the climate community is watching closely to see where funds are going. This report provides insights by summarizing investments awarded in the past year, examining six key discretionary programs, and detailing implementation milestones to look out for in 2024. To better answer these questions moving forward, we made seven recommendations to public agencies relating to data quality, principally focused on the release of more detailed and accessible data.

Funding Overview

Implementation efforts in 2023 increased significantly compared to 2022, with federal grant awards doubling. In total, the Climate Program Portal tracked \$126 billion in federal investments, distributed via 160 awards. The majority of funding in 2023 supported Transit and Rail projects, followed by vehicle and building electrification projects. Major competitive grant programs, such as the Intercity Passenger Rail Grants and the Regional Clean Hydrogen Hubs, allocated most of their appropriated funds under IIJA. Annual grant programs made their second round of IIJA funding and first round of IRA funding. Across both laws, nearly a third of the \$374 billion in appropriated funding for climate programs tracked by the Portal had been awarded by federal agencies by the end of 2023 (excluding tax credits and loans). Most of these awards have come from IIJA, which authorizes funding from fiscal year 2022 through 2026.

New York, California, Maryland, Texas, and Nevada led all states in climate investments in 2023, with projects ranging from rail infrastructure improvements to clean energy initiatives. Additionally, Wyoming, Maryland, Nevada, Alaska, and North Dakota received the highest per capita investments, with projects including clean energy demonstrations, innovative climate resiliency projects, and carbon capture initiatives.

Program Analysis

We tracked six programs (three pre-existing and three created under IRA or IIJA). The pre-existing programs all saw large funding injections and/or disseminated funding broadly in 2023, and the new programs will support investments in crucial policy areas to reduce emissions while centering equity.

Intercity Passenger Rail Program: this existing U.S. Department of Transportation (DOT) program supports the maintenance and expansion of the national passenger rail network. In 2023, the program awarded \$22.6 billion to rail projects including:

- \$16.4 billion for 25 maintenance projects in the Northeast Corridor.
- \$6 billion to support two new high-speed rail lines in California and Nevada.

Grid Resilience and Innovation Partnerships (GRIP): this new initiative provides funding to support infrastructure upgrades to the nation's electric grid. In 2023, the program awarded \$3.5 billion between its three subprograms. A significant share of the funding will support projects in:

- Minnesota (\$514 million), Louisiana (\$304 million), and Oregon (\$300 million), and
- Seven multi-state projects totaling \$355 million.

Clean School Bus Program: this new U.S. Environmental Protection Agency (EPA) program funds low-emitting or zero-emission school buses. The program announced its second year of grants in 2023 and distributed nearly \$1 billion. This funding supported:

- The purchase of over 2,700 clean school buses in 280 school districts in 37 states.
- Illinois to receive more funds than any other state (\$123 million) to purchase 180 electric buses across 20 school districts.

Rebuilding American Infrastructure with Sustainability and Equity: this pre-existing DOT program funds surface transportation projects. 2023 marked the second year of IJA funds with \$2.26 billion awarded to support:

- Record levels of funding totaling \$562 million for bicycle-pedestrian projects.
- 54 percent of funding directed to disadvantaged communities, more than in 2022.¹

Environmental and Climate Justice (ECJ) Program: this new program directs funding to community-based organizations (CBOs) doing environmental justice work in local communities. In 2023, three of the program's four subgrants awarded \$800 million including:

- \$600 million to 11 grantmakers, who will further disseminate their grant awards to local CBOs in 2024.
- \$128 million to 186 nonprofit organizations, public agencies, territories, and tribes, with California receiving the most grant funding.

¹ According to the Climate and Economic Justice Screening Tool (CEJST).

Urban and Community Forestry: this existing U.S. Forest Service program received a historic \$1.5 billion funding boost from the IRA to increase equitable access to trees and green spaces. In 2023, the program announced over \$1 billion. This funding will:

- Deliver 100 percent of the program benefits to disadvantaged communities.
- Support 385 projects spanning all fifty states, the District of Columbia, and five U.S. Territories, 90 percent of which include tree planting, and 45 percent of which include workforce development.

What's Ahead for 2024

In 2024, we anticipate implementation will continue to scale, as states and federal agencies prioritize funding awards. Major funding highlights to look for in 2024 include:

- The dissemination and implementation of the EPA's \$27 billion Greenhouse Gas Reduction fund. Recipients were announced in April 2024.
- A likely historic uptake of clean energy tax credits by entities without a tax burden thanks to the Direct Pay/Elective Pay mechanism established by the IRA.
- EPA will award \$4.3 billion in Climate Pollution Reduction Grants that will support states, local governments, tribes, and territories as they begin implementing their newly drafted Priority Climate Action Plans.
- States will finish setting up their Home Energy Rebate programs, which will distribute almost \$9 billion nationwide to support energy-saving retrofits and building electrification.

Introduction

The investments in climate action enabled by the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) are unprecedented and have the potential to curtail national emissions while generating a suite of co-benefits. In 2023, funding first authorized in 2021 and 2022 was disseminated by federal agencies across the United States, equipping recipients with the support necessary to catalyze the clean energy transition, create good jobs, and improve public health. Many of these programs are also targeting investments and the subsequent benefits at disadvantaged communities, following the Justice40 Initiative (J40). As implementation scales up, it becomes increasingly important that these programs are executed well.

This report follows Atlas's 2022 in Review report on the first full year of IIJA and IRA implementation [1]. It covers the scope of climate funding that has been awarded to projects

through the end of 2023, though updates from 2024 are incorporated where available. This report summarizes the key developments of 2023 but does not cover every funding initiative or include federal funding not tracked by the Climate Program Portal [2].

We organized the report into two primary sections:

1. **The Funding Overview** provides a summary of significant federal investments in climate action, including a review of the largest grant programs that disseminated funding in 2023, an update on the status of IIJA and IRA implementation, and an analysis of awarded funding by state.
2. **The Program Analysis** section is focused on six case studies of programs that made significant funding implementation actions in the past year. The six highlighted programs represent IIJA and IRA discretionary grant programs that made significant funding awards in 2023, either based on the total amount of funding or the total number of supported projects, shared sufficiently detailed award data, and represent priorities of the climate policy community. They include: The Federal Railroad Administration's (FRA) new Intercity Passenger Rail Program, the U.S. Department of Energy's (DOE) Resilience and Innovation Partnerships (GRIP) programs, the U.S. Environmental Protection Agency's (EPA) new Clean School Bus Program, the U.S. Department of Transportation's (DOT) Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program, EPA's new Environmental and Climate Justice (ECJ) Program, and the Forest Service's Urban and Community Forestry program.

About the Data

The analyses in this report are based on publicly available data, much of which has been aggregated on the Climate Program Portal's Opportunities and Outcomes Dashboards. Data analyses throughout depend on the quality and comprehensiveness of the data released by the federal agencies implementing IIJA and IRA. Across federal agencies, this varies significantly. The funding summarized here includes IRA and IIJA funding, but in some instances, the administering agency also incorporated other sources of funding. Funding awarded totals only include award announcements where a recipient and amount are specified by the funding administrator.

Recommendations for Collecting and Sharing Data

As funds continue to disseminate from IIJA- and IRA-authorized programs, it becomes increasingly important for investments to be publicly reported in a comprehensive and

transparent manner. This helps increase accountability and public understanding of what has been funded thus far, better enabling stakeholders to support the most effective allocation of remaining funding. The following recommendations are based on the data collection effort informing this report:

1. **Data format:** We encourage public agencies to release all data in a tabular format (such as a spreadsheet or a comma-separated values file) for ease of reuse by all stakeholders.
2. **Centralization:** The White House’s Map of Progress is a valuable resource [3]. We applaud agencies who are already sharing data with Map of Progress and encourage agencies who are not to regularly share data to ensure the record is as complete, accurate, and timely as possible. We also encourage the White House to add more data to their dashboard, including: the date funding awards were announced, when data has been added or updated, relevant data on any available impact metrics (e.g., number of jobs created, number of buses funded, the amount of renewable energy produced), and more granular geographic data about the jurisdiction or footprint of funded projects as well as where the funding recipient is located (i.e., city, county, and ZIP code) where possible.
3. **Spatially Explicit Data:** We strongly encourage agencies to share address or coordinate data for awarded projects that are specific to a site location where possible; this will allow for a greater understanding of where funding flows at a more granular level.
4. **Data dictionary:** We encourage agencies to publish a data dictionary on their awards and program data (including data field changes over time) so that the data can be easily interpreted.
5. **Source of award funding:** We encourage agencies reporting awards data to make explicit where other funding sources are contributing to a federal grant, if possible, delineating what has been funded by IIIJA and IRA, from other appropriations.
6. **Data on tax credits:** We encourage the Internal Revenue Service (IRS) and U.S. Department of the Treasury (Treasury) to share as much data as possible on projects supported by the Clean Energy Tax Credits. In January, the IRS shared that over one thousand projects had registered for the new IRA Energy Credits Online tool, providing a helpful indication of the scale at which the Tax Credits will be utilized. When applicable, we also encourage the IRS to share the approximate location of a tax credit-receiving project or purchase, while respecting privacy, and whether the project is taking advantage of elective pay, transferability, or any of the tax credit bonuses.
7. **J40 data:** The Environmental Justice Scorecards developed by the White House are a helpful starting point when assessing efforts to advance environmental justice by

federal agencies [4]. Beyond these, we encourage the White House to share their planned methodology for assessing the extent to which funding awarded by Justice40 covered programs has benefited disadvantaged communities (DACs). We also encourage agencies reporting awards data to share the jurisdiction of awarded projects, whether that be a ZIP code, city, county, electric utility territory, or other geographic unit, which would enable further assessment of whether funding has flowed to DACs.

Funding Overview

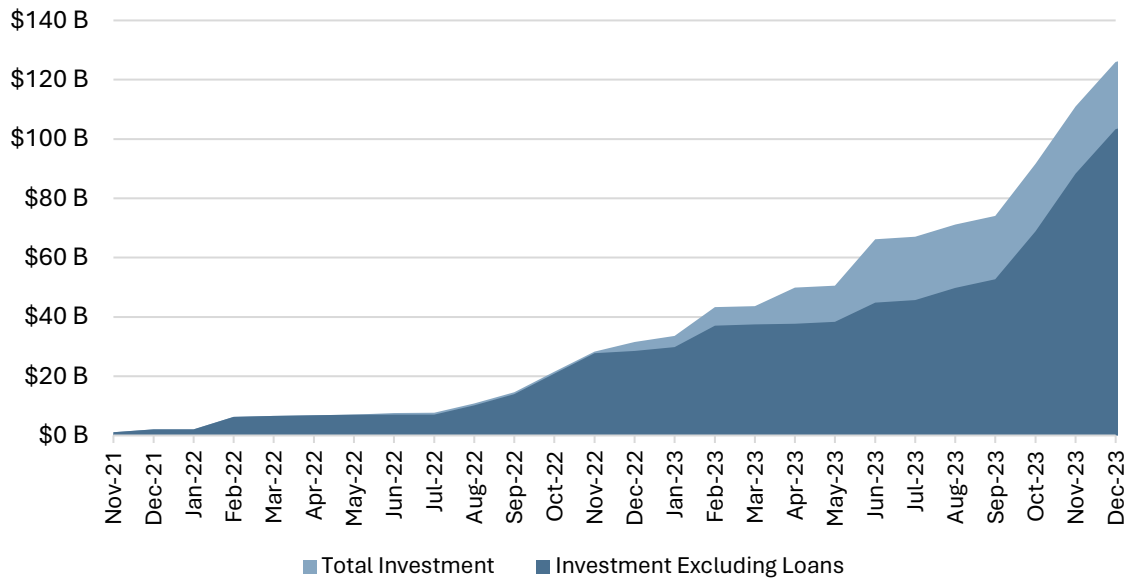
Federal investments in climate infrastructure in 2023 were historic and expansive. This section provides an update on climate funding awards announced in 2023, estimates how much IIJA and IRA appropriated funding is remaining, summarizes awarded funding by state and project climate elements, and highlights the programs that made the most significant infrastructure investments.

Update on Implementation

2023 marked the second full year of IIJA implementation and the first full year of IRA implementation. Expectedly, federal investments in climate infrastructure have ramped up across a wide range of climate policy areas. By the end of the year, investments tracked by the Climate Program Portal's Outcomes Dashboard totaled \$126 billion (including about \$21 billion in loans), up from \$31 billion at the end of 2022 [2]. Through December 2023, nearly 100 climate-related programs had announced 160 funding awards, supporting about 8,000 projects in all 50 states, the District of Columbia, and seven U.S. territories. In 2023 alone, twice as many awards (110) were made compared to the previous year.

Across both laws, nearly a third of the \$374 billion in appropriated funding for climate programs tracked by the Portal had been awarded by federal agencies by the end of 2023 (excluding tax credits and loans). Most of these awards have come from IIJA, which is generally being implemented from federal fiscal years 2022 through 2026. Conversely, most of IRA's grant funding began implementation during the past year. Some key IRA provisions like the Greenhouse Gas Reduction Fund must be implemented by the end of 2024, other programs will distribute funding from fiscal year 2023 through 2026, while state-run programs like the Home Energy Rebates must expend their funds by 2031. Meanwhile, many of the clean energy tax credits will be available to consumers for ten years, or through 2032.

Figure 1: Federal Investments in Climate Ramped Up in 2023

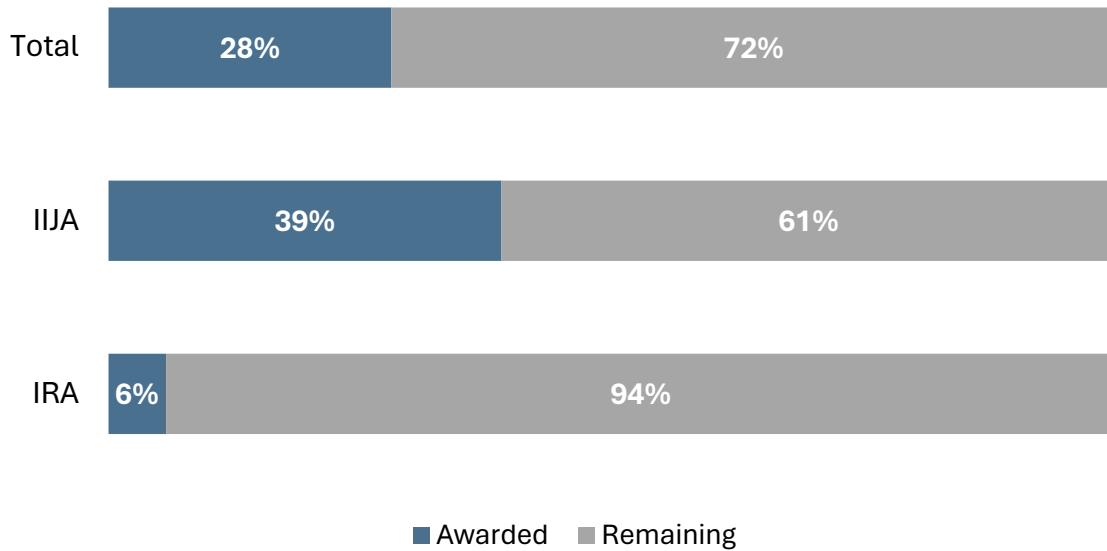


This chart shows the cumulative federal investments made by all federal climate programs tracked by the Climate Program Portal, including competitive grant programs, formula programs, and federal loans. It excludes federal tax credit uptake.

Source: [2]

Overall, 2023 saw about double the federal spending when compared with 2022, as seen in Figure 1. Large competitive grant programs funded by IIJA like the Intercity Passenger Rail Grants and the Regional Clean Hydrogen Hubs have awarded most of their appropriated funds. However, plenty of funding remains. Programs like RAISE, DOT’s largest discretionary program supporting safety, sustainability, and mobility-oriented surface transportation projects, Safe Streets and Roads for All, Low or No Emissions Grants (Low-No) Program for transit buses, and the Grid Innovation program will continue to award projects in 2024 and 2025. The largest competitive grant program in IRA, the Greenhouse Gas Reduction Fund (\$27 billion), will be disseminating funds to its recently announced awardees in 2024 [5]. Likewise, though Climate Pollution Reduction Grants for Climate Action Planning went out in 2023, the bulk of the program’s funding (\$5 billion) is tagged for implementation grants, which will likely be announced in July 2024. The largest climate investments from IRA, the clean energy tax credits, will also likely see an increase in uptake in 2024.

Figure 2: More than Two-Thirds of Climate Funding Yet to Be Awarded through 2023



Funding Awarded refers to funding that has been designated for a specific recipient or a specific project. Funding available refers to funding for which a request for proposal, funding opportunity, or rebate application has been opened, but for which the recipient(s) have not yet been announced. Funding allocated refers to formula funding for which the state or local allocations have been announced, but that has not yet been distributed to states. Funding remaining refers to funding that was appropriated but has not yet been allocated, made available through a funding opportunity, or awarded to specific recipients.

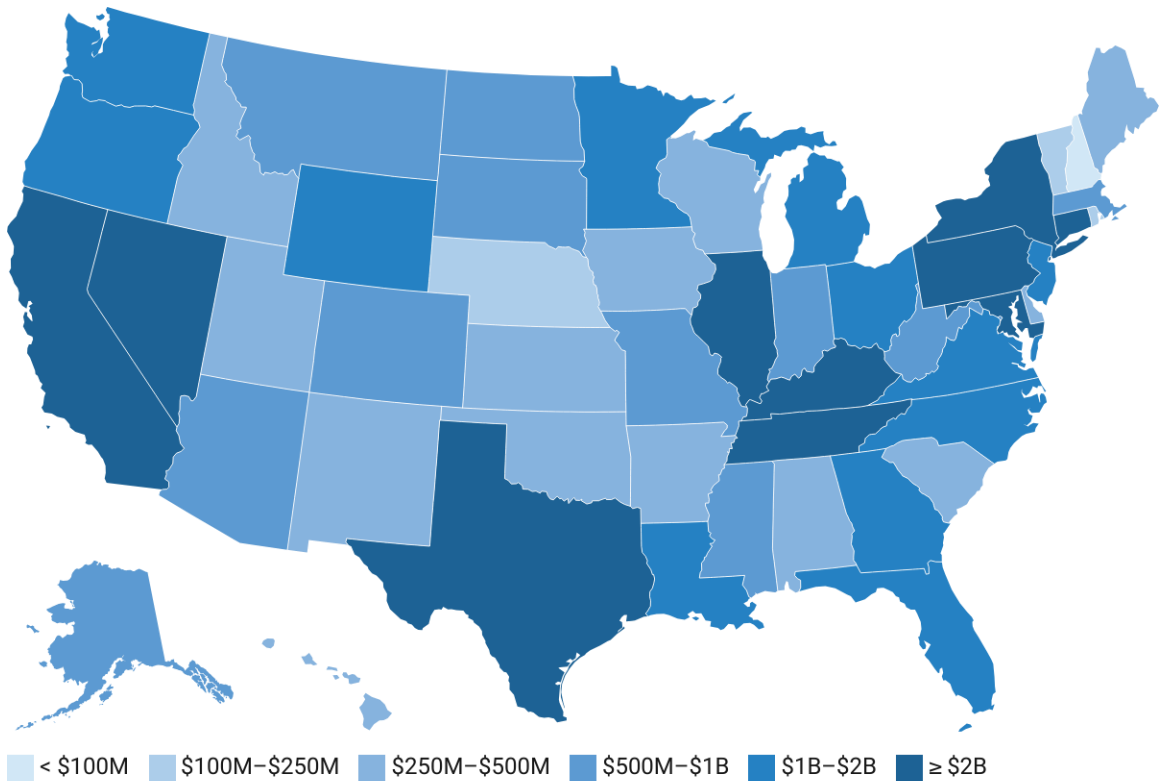
Source: [2]

Investments by State

New York, California, Maryland, Nevada, and Kentucky top the list of states with the most climate investments in 2023 (Figure 3). Most of New York, California, Maryland, and Nevada’s investments come from the Intercity Passenger Rail Grant Program. New York will receive four grants from the program, one for the Hudson River Tunnel rehabilitation, two for Amtrak improvements in the state— the Pelham Bay Bridge Replacement project and the final design and construction of the East River Tunnels—and one for the New York State Metropolitan Transportation Authority’s project connecting Penn Station to New Rochelle, New York. In Maryland, the program made nearly \$7 billion in grants to Amtrak, including \$4.7 billion for the final design and construction of the Frederick Douglass Tunnel, \$2.1 billion to replace the Susquehanna River transit crossing, and \$108 million for Baltimore Penn Station. In Nevada, the program granted the Nevada Department of Transportation \$3 billion to construct the Brightline West High-Speed Project, a 218-mile high-speed passenger rail

system that will connect Las Vegas and Rancho Cucamonga, California, and Southern California’s Metrolink system [6]. Most of Kentucky’s funding comes from DOE’s Advanced Technology Vehicle Manufacturing Loan Program (ATVM), as the state will be home to two of the three battery manufacturing plants constructed by BlueOval SK LLC (BOSK) [7].

Figure 3: Federal Climate Investments by State in 2023



This figure maps total awarded funding for each state in 2023. For multi-state awards, the funding amount is split evenly between the states linked to the award. National awards are excluded from the total funding sum.

Source: [2]

The top six states with the largest per capita investments are Wyoming, Maryland, Nevada, North Dakota, Kentucky, and Alaska. More than half of Wyoming’s 2023 investments came from the aforementioned \$1.3 billion grant to TerraPower to develop a nuclear energy facility, the Natrium Reactor Demonstration Project in Kemmerer [8]. The demonstration plant is expected to bring 1,600 construction jobs and 250 full-time positions and is being built adjacent to a retiring coal facility, making it a test case of the type of clean energy projects in existing energy communities necessary to achieve a just transition.

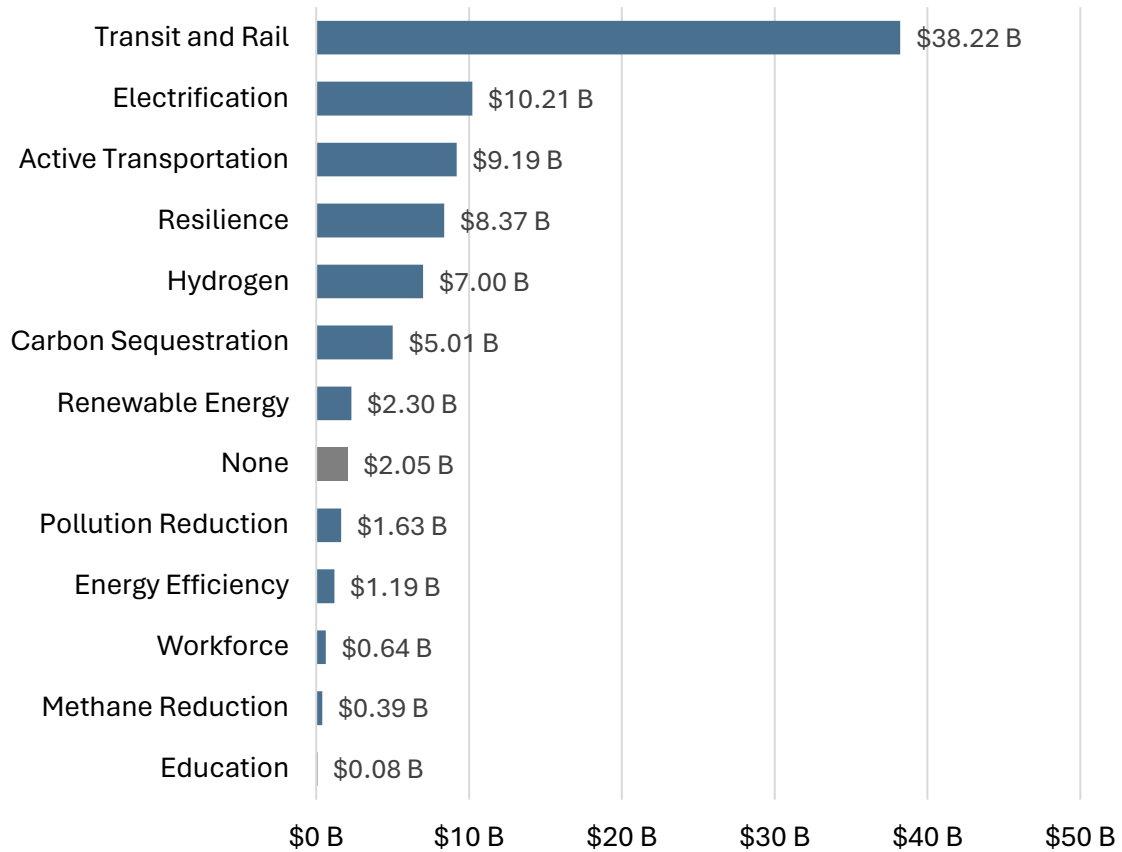
The state of Alaska received nearly \$700 million in federal grants in 2023, including \$206 million to the Alaska Energy Authority for the Railbelt Innovative Resiliency Project, \$46 million to the Alaska Department of Transportation and Public Facilities to add an electric ferry to the Alaska ferry system, and \$36 million to Westinghouse Electric Company to build a Long-Duration Energy Storage Demonstration project in Healy, Alaska.

In North Dakota, a Carbon Capture Demonstration Project investment tops the state's federal climate grants. In December 2023, the Department of Energy (DOE) Office of Clean Energy Demonstrations (OCED) announced it would grant \$350 million to Project Tundra, a new carbon capture system that will be built in Center, North Dakota, next to a coal-fired power plant. In addition to the federal grant, the project is being funded by Minnkota Power Cooperative and has received state support [9]. Minnkota is partnering with the International Brotherhood of Electrical Workers through existing Collective Bargaining Agreements, and TC Energy.

Top Climate Element Investments

The majority of 2023's federal climate investments went towards Transit and Rail projects. This is primarily due to the scale of the Intercity Passenger Rail program, but also transit and rail projects funded by FRA's Consolidated Rail Infrastructure and Safety Improvement Grants (CRISI), the Low-No Program, and RAISE. Second to transit and rail, 361 projects contain electrification activities, as illustrated in Figure 4. These projects were primarily funded by DOT Formula Funding like the National Electric Vehicle Infrastructure (NEVI) program, the Congestion Mitigation and Air Quality Improvement (CMAQ) program, the Carbon Reduction Program, as well as the Low-No Program and RAISE. Nearly 1,400 projects include active transportation elements. Many of these are part of larger transportation projects funded by the CMAQ program, Safe Streets and Roads for All, RAISE, and the Rural Surface Transportation Grant program. Almost 1,000 projects include elements aimed at increasing climate resilience, especially those funded by the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Grant Program, which helps local agencies improve the resilience of their transportation systems, and the three GRIP grid resiliency programs.

Figure 4: Awards Made in 2023 by Climate Elements



This chart includes announced project award data from January to December 2023. A project is considered to include a given climate element if the publicly available project description addresses any aspect of that climate element. The funding totals for each climate element represent the total project funding which includes that element, not the funding dedicated to that element. For programs tracked for the Climate Program Portal, if the publicly available project description does not explicitly address any of the measured climate elements, then the element is marked as “None.”

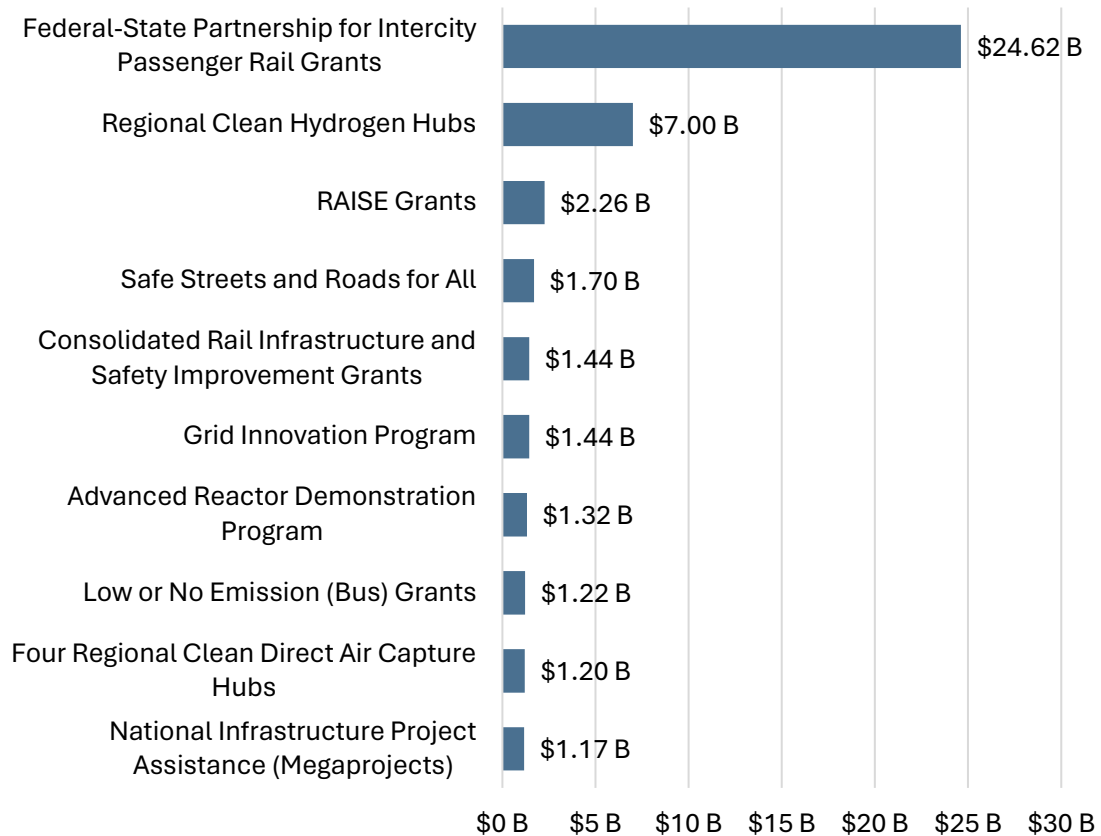
Source: [2]

Largest Climate Programs

As seen in Figure 5, the largest investment by a single program was the \$24.6 billion made by the Federal-State Partnership for Intercity Passenger Rail, expending the majority of the \$36 billion appropriated by IJA toward ten national projects (\$8 billion) and 25 projects in the Northeast Corridor (\$16.4 billion). These projects include two new high-speed rail lines: California’s inaugural line connecting central valley cities Madera, Merced, Fresno, and Bakersfield (an initial segment of the state’s more ambitious high-speed rail vision that would

run from the Bay Area to Southern California), and Nevada’s inaugural line linking Las Vegas to Southern California. This program is part of the \$66 billion investment in passenger rail appropriated by IJJA making it the largest federal investment of the kind since the creation of Amtrak in 1970 by President Nixon [10]. Aside from the Intercity Passenger Rail grants, the Federal Railroad Administration (FRA) also awarded about \$1.4 billion through the CRISI program [11, 12]. This award represents about a third of the \$5 billion appropriated by IJJA and invested in 70 rail improvement projects in 35 states including many states that did not receive funding from the Intercity Passenger Rail program like Alabama, Kentucky, Louisiana, and Ohio.

Figure 5: Top 10 Largest Discretionary Programs by Awards Announced in 2023



Includes the climate-related discretionary grant programs funded by IJJA or IRA that awarded the most funding to projects in the calendar year 2023. This excludes federal investments like loan programs, formula grant programs, tax credits, and discretionary awards that were announced in 2022.

Source: [2]

Other significant transportation investments include a second round of funding disseminated by RAISE [13]. In June 2023, the program announced \$2.26 billion in funding for 162 projects in all 50 states, the District of Columbia, and two territories. This marks the second installment of the program's \$7.5 billion in IIJA funds, with the third round expected in 2024. Additionally, DOT awarded \$895 million via its Safe Streets and Roads for All (SS4A) program for 48 safety project implementation grants and 572 planning and demonstration project grants across all states [14, 15].

Provisions like DOE's Advanced Reactor Demonstration Program (ARDP) and Regional Direct Air Capture Hubs programs made substantial investments in new energy projects [16, 17]. In 2023, ARDP awarded its remaining IIJA funding, granting \$1.3 billion to TerraPower to support the Natrium Reactor Demonstration project in Kemmerer, Wyoming [18]. The program started with a total of \$2.5 billion to support advanced nuclear reactors, \$1.1 billion of which was awarded in 2021 to X-energy for a project in Texas [19]. The Direct Air Capture Hubs program announced \$1.2 billion in support for two new commercial-scale direct air capture facilities: one in Kleberg County, Texas, and the other in Calcasieu Parish, Louisiana [20]. Together the projects are expected to remove over 2 million metric tons of CO₂ annually and create 4,800 jobs. In 2023, the program also granted awards to support feasibility assessments and front-end engineering and design (FEED) studies for 19 additional projects, totaling about \$99 million [21]. In total, the program has invested \$1.3 billion, or a little over a third of its \$3.5 billion in funding.

The first third of DOE's Grid Resilience and Innovation Partnerships (GRIP) Program's federal funds were also distributed in 2023 [22]. The three sub-programs awarded \$3.5 billion for 58 projects across 44 states, including 16 Grid Resilience grants, eight projects under the Grid Innovation Program, and 34 projects under Smart Grid Grants.

Key federal investments made in 2023 also include the second installment of Low or No Emission Bus Grants [23]. IIJA appropriated \$5.6 billion for the program and distributed \$1.17 billion to 100 state governments, city governments, and transit agencies last year. In 2023 the program awarded an additional \$1.22 billion to 83 recipients. A third round of funding is expected in 2024.

DOE's Advanced Technology Vehicle Manufacturing Loan Program (ATVM) also made significant loan commitments to five companies amounting to a little over \$15 billion [24]. Though ATVM predates IRA, the law substantively modified the program, removing the original loan authority cap of \$25 billion and infusing it with \$3 billion in credit subsidy. The new credit subsidy will support an estimated \$40 billion in direct loan authority for the manufacturing of low or zero-emission vehicles. In 2022, the program granted roughly \$2.6 billion in loans to two companies for lithium-ion battery manufacturing. In 2023, the program ramped up activity significantly, announcing five loan commitments, including a \$9.2 billion loan to

BlueOval SK LLC (BOSK) that will help finance the construction of three manufacturing plants to produce batteries for Ford Motor Company’s future Ford and Lincoln electric vehicles [7]. One of the plants will be in Stanton, Tennessee, and two will be built in Glendale Kentucky, adding a combined 12,500 construction and operations jobs to the economy.

Other key program awards include those made by the Regional Clean Hydrogen Hubs program [25]. In October, the Department of Energy’s Office of Clean Energy Demonstrations (OCEM) announced the seven regional hydrogen hubs that would receive a collective \$7 billion, the majority of the program’s \$8 billion in IIJA funding [26]. This surpasses the program’s initial goal of incentivizing four hubs. The hubs were distributed regionally: Appalachia, California, the Gulf Coast, the Midwest, the Mid-Atlantic, the Heartland, and the Pacific Northwest. Together, the hubs are expected to reduce carbon dioxide emissions by 25 million metric tons annually and create over 220 thousand construction jobs and 112 thousand permanent jobs, signaling the projects’ immense potential to catalyze local economics and reduce greenhouse gas emissions [26].

The federal cost share for these projects is significant, but critically they are also supported by IRA’s Clean Hydrogen Tax credit, a factor that has caused emerging tensions around the Treasury’s proposed rules regarding those credits. Clean hydrogen can either be produced via electrolysis from renewables (green hydrogen) or from natural gas in conjunction with carbon capture (blue hydrogen). Environmental advocacy groups have raised concerns that blue hydrogen projects must ensure that they are effectively capturing nearly all the produced carbon dioxide. To this end, the Treasury Department has proposed projects pass a “three-part test” regarding their power source, ensuring their renewable energy source is new, nearby, and produced at the time that hubs will use it [27]. In February of 2024, the seven awarded hubs submitted a joint filing arguing their projects would no longer be “economically viable” under this rule [28].

In addition to discretionary grant programs, formula programs like the CMAQ program, PROTECT program, the Carbon Reduction Program (CRP), and the NEVI program distributed roughly \$17 billion collectively in 2023, marking their second of five IIJA appropriated allocations to state transportation agencies for implementation [29, 30, 31, 32].

Program Analysis

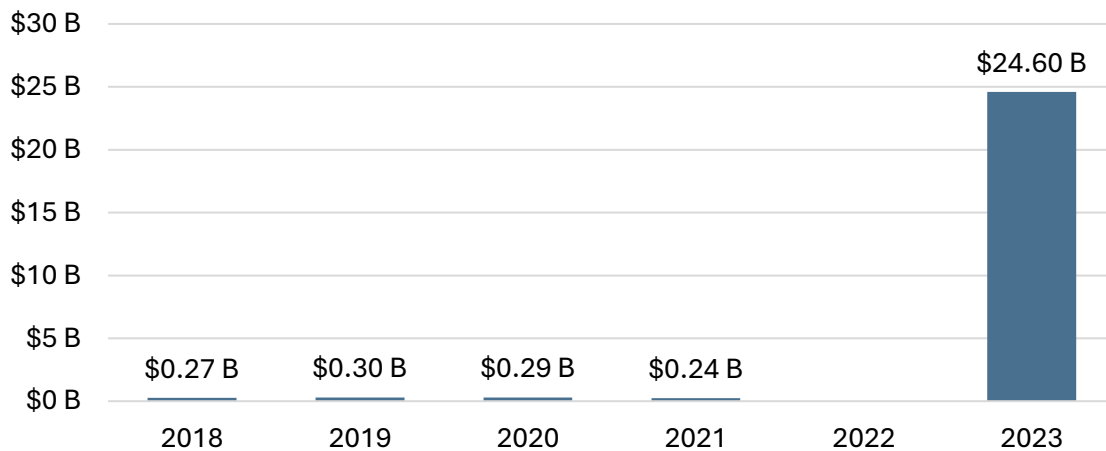
There are hundreds of programs with climate impacts in the two laws. As it is not possible to provide in-depth updates on all programs, this report focuses on the potential climate impacts of six programs that made significant funding awards in 2023. We selected these programs based on four primary criteria: the programs are discretionary, the administering

agency has released funding awarded data with sufficient granularity, the programs made significantly large award announcements relative to other IIJA and IRA climate programs, and the programs are priorities for many in the climate community. Last year, this report focused on Tribal Climate Resilience, Clean School Bus Program, Brownfields, RAISE, Orphaned Well Program, and Low-No Program [1].

Intercity Passenger Rail Program

Decarbonizing our transportation system necessitates expanding the national network of passenger rail. One of the largest provisions in IIJA allocated \$36 billion for these projects, most of which was awarded in 2023 through the DOT’s Federal-State Partnership for Intercity Passenger Rail Grant Program. Per an IIJA revision, the Intercity Passenger Rail Program funding is awarded in two categories based on project region: (1) projects located on the Northeast Corridor and (2) projects not located on the Northeast Corridor (also known as national projects) [33]. At the end of 2023, \$8.2 billion was awarded for ten national projects and \$16.4 billion for 25 Northeast Corridor projects [10, 34].

Figure 6: Funding Awarded for Intercity Passenger Rail Awards by Year

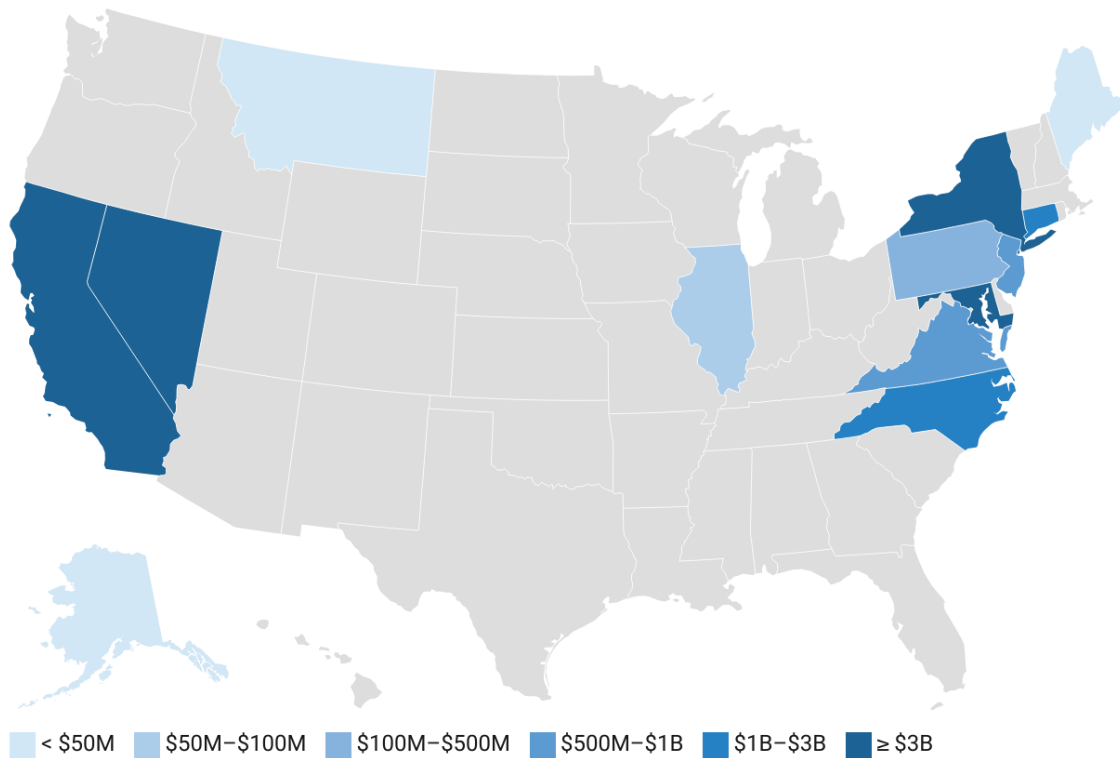


This figure summarizes funding made available to award by the Federal-State Partnership for Intercity Passenger Rail (2022, 2023) formally known as the Federal-State Partnership State of Good Repair (established by the FAST Act of 2015, made funding available to award between FY 2017-2021). 2018 data includes funding from FY 2017 and FY 2018. 2023 includes funding from FY 2022 and FY 2023. This time series does not include the \$10.6 billion in federal funding awarded by the High-Speed Intercity Passenger Rail (HSIPR) Grant Program in 2010, \$400 million of which was rescinded by the 112th Congress [35].

Source: [36] [37]

The IJJA-supported investment represents a historic boost in funding for intercity passenger rail (Figure 6). Altogether, these projects will create 100,000 new jobs, 4,000 of which are expected to be permanent union jobs, providing important economic opportunities to local populations while supporting the maintenance and expansion of safe, convenient, and low-emission transportation options [10].

Figure 7: Federal Intercity Passenger Rail Funding by State



Funding amount by state represents the total sum of funding made by the Federal Intercity Passenger Rail program in 2023.

Source: [37]

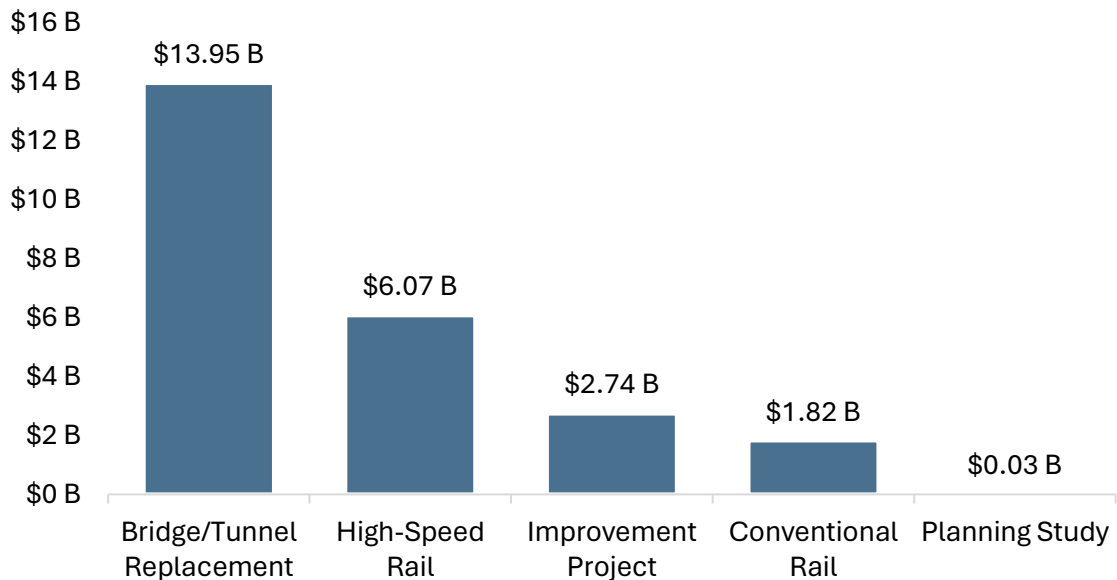
Some of this funding is supporting the development of new lines, including two new high-speed rail lines, the first ever in the West. The California High-Speed Rail Authority received \$3 billion in funding to build and design the 171-mile Merced to Bakersfield segment of Phase 1 of the project, which seeks to link San Francisco to Los Angeles, through the Central Valley [10, 38]. A further \$3 billion was awarded to the Nevada DOT for its Brightline West High-Speed Intercity Passenger Rail System Project, which will build a new 218-mile intercity passenger rail line linking Las Vegas, Nevada, to Rancho Cucamonga, California, connecting passengers to the Los Angeles Metro area via Metrolink. This project will support

all-electric trains, create 35,000 construction jobs and 1,000 permanent jobs, and is anticipated to reduce annual carbon dioxide emissions by approximately 400,000 tons upon completion. The California High-Speed Rail line is anticipated to move up to 220 miles per hour (mph), while the Brightline will take passengers over 186 mph. Once completed, these will be the fastest high-speed rail lines in the nation, as the Acela—the only U.S. high-speed line currently in operation—moves passengers between Boston and Washington, DC at speeds up to 150 mph.

The third new rail line supported by the program will develop a new line connecting Raleigh, North Carolina, and Richmond, Virginia. North Carolina’s DOT received \$1 billion to build the conventional passenger rail line, ultimately connecting the Southeast and Northeast corridors. The project also includes upgrades to existing transit infrastructure [10].

The rest of the funding will be used for improving or replacing aging infrastructure, including major tunnels and bridges like the Frederick Douglass Tunnel in Maryland and the Hudson River Tunnel between New York and New Jersey, some of which are over 100 years old.

Figure 8: Federal Intercity Passenger Rail Investment by Project Type



Project type categories were determined based on project descriptions shared by the Federal Railroad Administration and are mutually exclusive.

Source: [37]

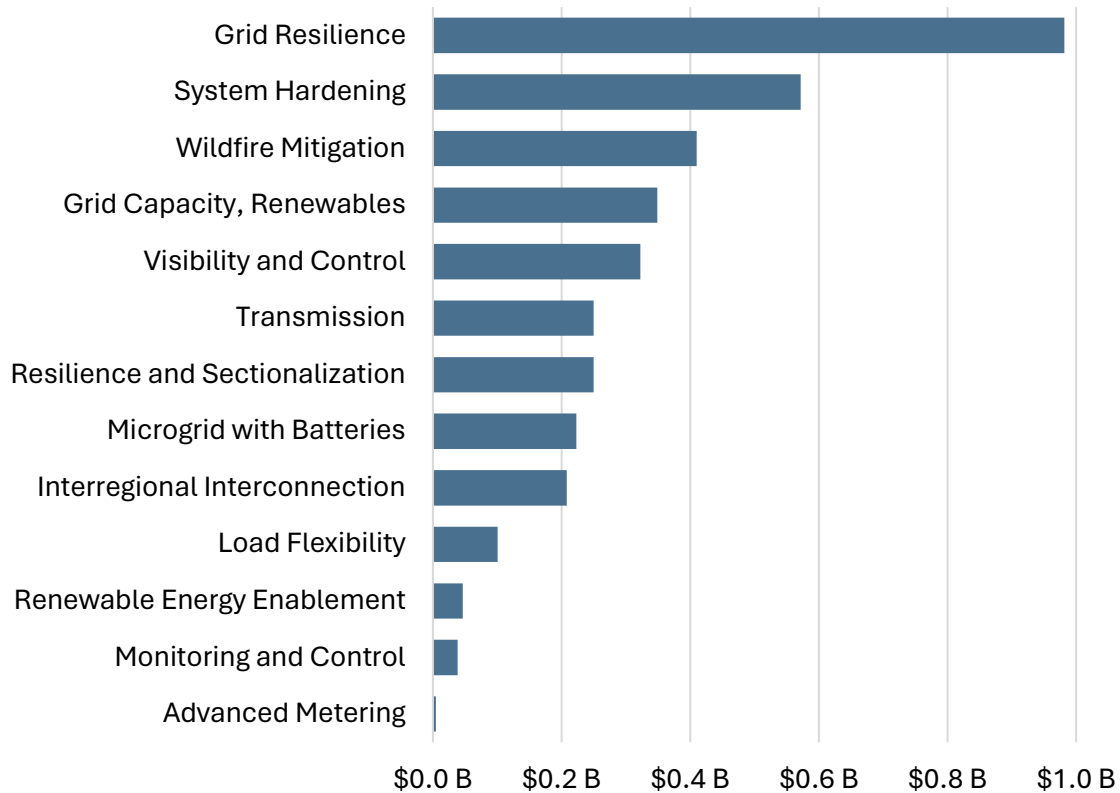
Grid Resilience and Innovation Partnerships

Upgrading the electric grid is an essential part of building out renewables and electrifying the transportation sector. Three funding mechanisms from IJA support grid improvements that enhance flexibility and resilience against extreme weather including the Grid Resilience Utility and Industry Grants (\$2.5 billion), Smart Grid Grants (\$3 billion), and the Grid Innovation Program (\$5 billion).² Altogether, these programs make up the larger Grid Resilience and Innovation Partnerships (GRIP) Program. In October 2023, the DOE announced its first dispersal of GRIP Program funding, consisting of \$3.5 billion for 58 projects across 44 states to strengthen electric grid resilience and reliability across the U.S. [39]. Among these projects, the DOE selected 16 Grid Resilience grants, eight projects under the Grid Innovation Program, and 34 projects under Smart Grid Grants. This \$3.5 billion is the first third of appropriated funding. The second round of funding totaling \$3.9 billion opened in November 2023 [40]. Applications for the Grid Resilience Grants and Grid Innovation Program were due April 17, 2024 [41]. Applications for Smart Grid Grants are due May 22, 2024. After this round, about \$3 billion will be left, or 31 percent of total funding remaining [42].

Most GRIP investments went towards bolstering the resilience of our electric grids to climate change (Figure 9). Award recipients include a \$50 million granted to Oklahoma Gas and Electric that will support the development of the Adaptable Grid Project, which will increase resiliency to extreme weather for 19 tribal tracts, 20 federally recognized tribes, 150 DACs, and nearly 900 million customers [43]. The program also made significant investments in wildfire mitigation, like the \$99 million grant awarded to launch the Wildfire Assessment and Resilience for Networks (WARN) [44]. WARN will organize a consortium of 39 small, rural, not-for-profit electric cooperatives in high wildfire risk areas across Central and Western United States and help them implement strategies to mitigate wildfire impacts on their systems like fire-resistant grid infrastructure, undergrounding lines, and upgrading overhead lines. Several projects that have also been awarded funding will increase inter-regional interconnection and transmission capacity, grid upgrades that are essential to the scaling up of renewables required by the clean energy transition. For example, the Joint Targeted Interconnection Queue Transmission Study Process and Portfolio will plan, design, and construct five transmission projects across seven Midwest states including Iowa, Kansas, Nebraska, North Dakota, Minnesota, Missouri, and South Dakota [45]. At \$464 million, these projects are also the largest award for this initial round of funding.

² Note that on the Climate Program Portal, Smart Grid Grants is listed under the “Smart Grid Investment Matching Grant Program” and the Grid Innovation Program is called the “Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency.”

Figure 9: GRIP Program Investments by Project Type



Funding amount aggregates awards made across the DOE’s three GRIP programs in October 2023, including Grid Resilience Utility and Industry Grants, Smart Grid Grants, and the Grid Innovation Program. Project type categories are sourced from the DOE’s GRIP Program Project detailed as shared by the Grid Deployment Office.

Source: [22]

Clean School Bus Program

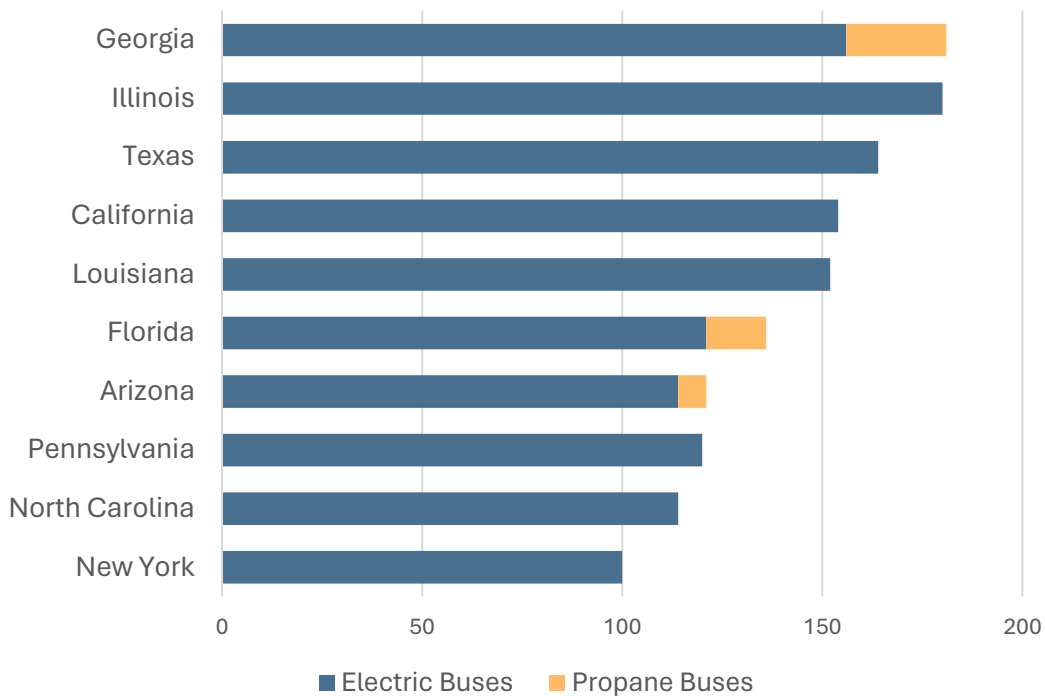
Electric school buses significantly reduce harmful emissions associated with diesel, thereby improving overall air quality in communities. School buses operate on fixed and standard routes, making them relatively easy transportation modes to electrify, as they can be routinely charged. Electric school buses can also help districts save money on operating costs when public funds cover the upfront costs of the vehicles [46]. A 2023 study from the Electric School Bus Initiative found that on average, a new electric school bus can save \$6,000 annually in operation costs depending on how much maintenance and repair is required [47, 48]. A school district utilizing an electric school bus can anticipate over

\$100,000 in lifetime fuel and maintenance savings compared to an equivalent diesel bus [49].

School bus batteries can be integrated into the grid and serve as a source of energy storage. At times when the buses are not in use – such as during school hours and during the summer – their batteries can store excess energy generated from and supply power back to the grid [50].

The upfront cost of an electric school bus is significantly higher than that of its diesel counterpart, however; some reports show upwards of three to four times a diesel bus [51]. These high upfront costs may be a barrier to districts considering purchasing electric buses for their schools. Federal dollars and rebate programs can help to remedy the situation.

Figure 10: Clean School Bus Program Grants by Number of Buses, Top 10 States



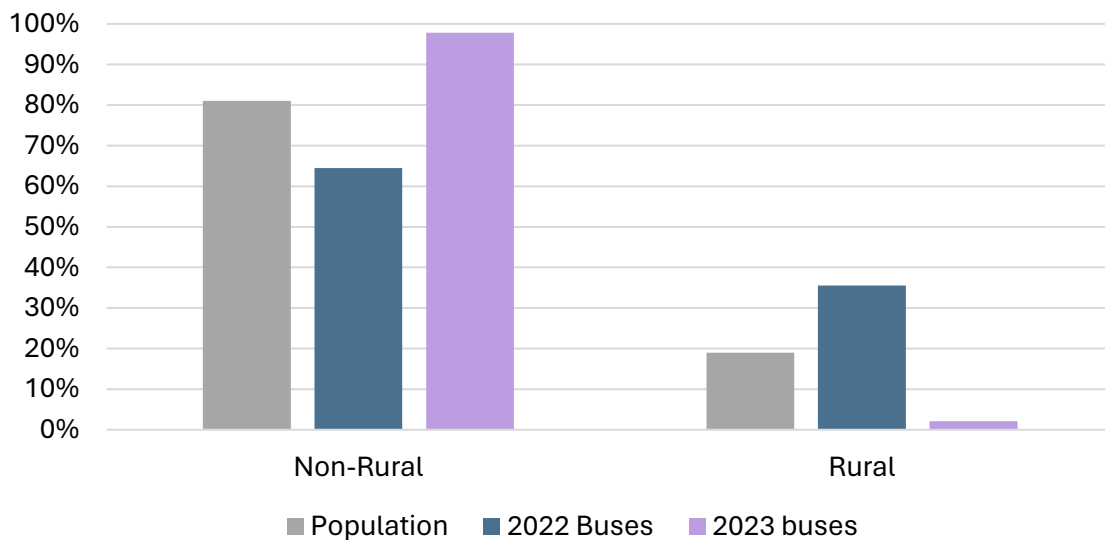
This figure shows the number of buses supported by funding awards announced by EPA’s Clean School Bus Program in January 2023. The funding total includes all fuel types. None of these states used funding to purchase CNG buses.

Source: [2, 53]

The Clean School Bus (CSB) Program is providing a historic boost in funding to address this issue. Created in IIJA and administered by the EPA, the CSB program provides \$5 billion in

funding for fiscal years 2022 – 2026 to replace existing school buses with zero-emission and clean school buses. 2023 saw the second round of awards dispersed. In January 2024, the EPA selected 67 applicants to receive nearly \$1 billion through EPA’s CSB Grants Competition [52]. This funding will help grantees purchase over 2,700 clean school buses in 280 school districts serving over seven million students across 37 states. Nearly all these vehicles (95 percent) will be electric, with the remainder powered by propane. Illinois received more funding than any other state in the second round of program awards, while Georgia, Illinois, and Texas will be purchasing the most buses (Figure 10). Illinois’ awards will support the purchase of at least 180 electric school buses across 20 school districts. New York City’s 32 school districts also received just under \$32 million in funding for 100 electric school buses and NYC Geographic District 19, 20, 21, and 22 schools received funding for 20 electric buses each. Outside of New York City, Evans Brant Central School District, outside of Buffalo, also received funding for 20 electric buses.

Figure 11: Clean School Bus Program Investments in Rural and Non-Rural Schools



Enrollment data is National Center for Education Statistics (NCES) data from 2015-16 for public schools.

Source: [53]

As shown in Figure 11, while 2022 saw an increase in funding for rural school districts, in 2023 the EPA distributed nearly all of the program funding to purchase electric buses in non-rural districts. All of Illinois, California, Georgia, Michigan, Louisiana, Wisconsin, New York, and Ohio’s awards went to non-rural districts where most of the state’s student population is concentrated. Texas received funding for five rural school districts, and Minnesota

for one. In total, the CSB Program has funded 5,000 clean school buses to date. An in-depth analysis of round one awards can be found in last year's Annual Report [1].

Rebuilding American Infrastructure with Sustainability and Equity

IJJA contains significant funding for transportation. The bulk of these funds are committed to formula funding for state highway departments. While important investments in our transportation system, this funding may not reduce emissions and can even increase them in some cases [54]. RAISE, a longstanding DOT program that received a \$7.5 billion boost from IJJA, is the agency's largest discretionary program, meaning the DOT selects which types of projects receive grant funding. The program is broadly focused on surface transportation investments that improve safety, sustainability, quality of life, mobility, connectivity, and economic viability.

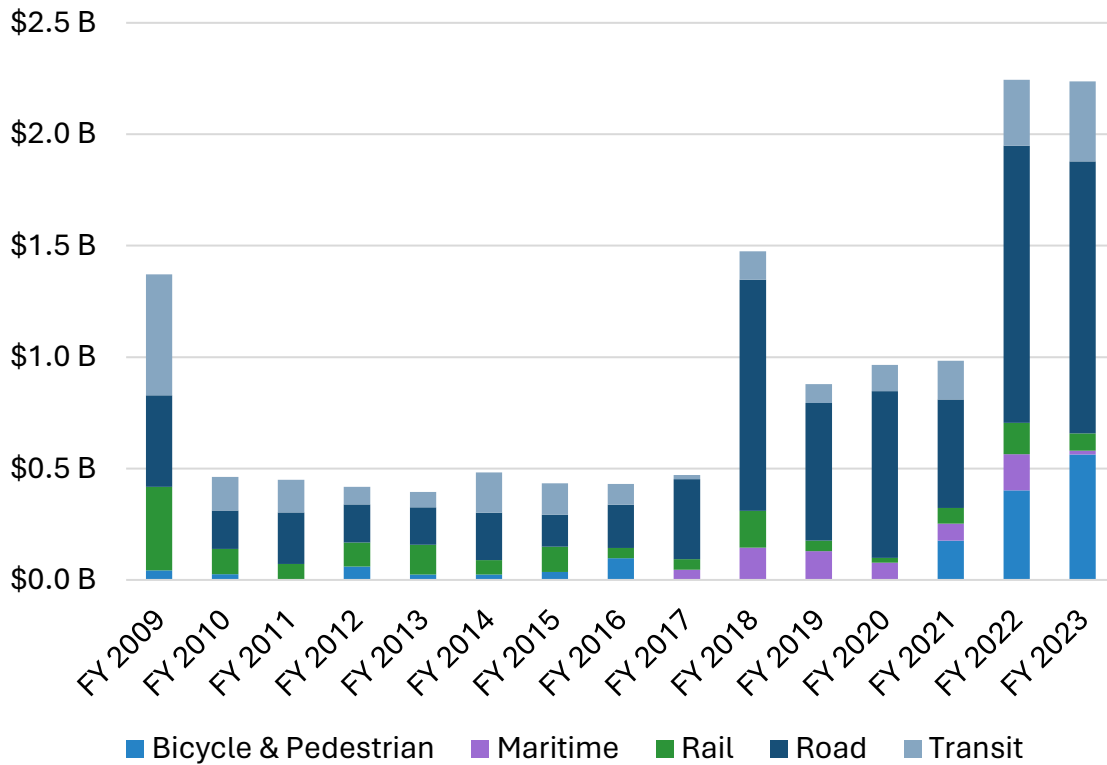
Since the passage of IJJA, RAISE has focused on multimodal transportation projects. In 2022, when the program made its first round of post-IJJA funding, it made record investments in bicycle-pedestrian and transit projects. In total, DOT awarded \$2.25 billion to 166 projects, 21 percent of which went to 34 projects focused on improving bicycle and pedestrian mobility and 15.5 percent of which went to 25 projects focused on transit, representing a significant jump from the 19 bicycle-pedestrian and 17 transit projects funded the previous year. In 2023, the agency kept pace, investing even more in bicycle and pedestrian-oriented projects. Over a quarter of the \$2.26 billion awarded in 2023 went to 41 bicycle-pedestrian projects and about 19 percent supported 24 transit projects. This represents the most annual RAISE funding that has supported bicycle-pedestrian projects in the last few decades, an especially stark departure from fiscal years 2017 through 2020 when the Trump Administration was in office and bicycle-pedestrian funding dropped to zero.

Washington, California, Texas, New York, and Colorado saw the most grant funding nationally. Notably, over half of all RAISE-funded projects in 2023 were located in DACs according to the Climate and Economic Justice Screen Tool (CEJST) and a previous Atlas analysis [55]. Though this does not necessarily translate to those communities receiving benefits from the projects located within them—history has illuminated how road expansions disproportionately impact disadvantaged communities and communities of color—it provides an initial indication of investments being made in alignment with the Biden Administration's Justice40 Initiative [54].

Complete Streets, a street design philosophy that better enables safe use and mobility for all users, was mentioned in 28 (less than 20 percent) of 2023 funded projects [56]. Examples of Complete Streets design include built infrastructure elements like sidewalks,

bicycle lanes, bus lanes, public transit stops, pedestrian crossings and signals, medians, curb extensions, modified vehicle travel lanes, and landscape treatments. The majority of these projects are also located in DACs, a promising indication that investments will provide safety and mobility benefits to those who have been historically disinvested. DOT also awarded \$180 million to 12 Tribes for road projects, many of which are designed to increase community resilience to flooding. This signals an important increase in federal funding for Tribes, which are often under-invested in by federal transportation agencies [57].

Figure 12: Proportion of Program Grant Funds by Primary Project Time, FY09 through FY23



This figure excludes RAISE funding granted to port and aviation projects. In 2018, a Democratic-controlled House increased the program’s budget; in 2021 the Biden Administration passed the Infrastructure Investment and Jobs Act (IIJA), boosting funding for the program in FY22 and FY23.

Source: [13]

To date, RAISE has distributed about 60 percent of its IIJA-appropriated funding, leaving \$3 billion to be awarded in future years. After that, the program will require additional funding

to maintain the levels of support offered to surface transportation projects over the past two years.

Environmental and Climate Justice Program

The Environmental and Climate Justice (ECJ) program represents a critical effort by the EPA to direct federal funding to small community-based organizations (CBOs) that typically lack the capacity to apply for federal grants. Created by the IRA, ECJ has \$3 billion in funding, \$2.8 billion for financial assistance, and \$200 million for technical assistance. In a federal investment landscape full of large grant programs, the ECJ subgrants are prime examples of how federal funding can have a significant impact on local communities when disseminated broadly via smaller grants. The program is divided into four sub-programs, three of which made significant steps in implementation in the past year, awarding \$800 million of the program's funds across the country including:

- 1. EJ Thriving Communities Grantmaking (EJ TCGM) Program:** In 2023, the EJ TCGM held a national competition to select Grantmakers to help distribute about \$600 million in environmental justice subgrants to CBOs. In December, the EPA announced 11 Grantmakers, three who will operate at the national scale, and nine who will focus their efforts regionally. The Grantmakers include a mix of nonprofits and Institutes of Higher Education, all working in partnership with other nonprofits, who are tasked with improving the accessibility of federal funds for small and local CBOs. This announcement marks the first step in distributing these funds to environmental justice communities. Subgrants via the selected Grantmakers will become available to CBOs by the fall of 2024, after which the \$600 million in funding will be further distributed to local communities.
- 2. EJ Collaborative Problem-Solving (EJCPS) Cooperative Agreement Program:** EJCPS provides grants to nonprofit organizations working to address local environmental justice issues in their communities. In 2023, the EPA awarded \$44 million in funding for this program to 98 organizations, 11 of which have five or fewer full-time employees, each receiving up to \$500,000. This program operates similarly to the EJG2G program, which funds governments working on similar issues.
- 3. EJ Government to Government (EJG2G) Program:** EJG2G mirrors the EJCPS but instead provides financial assistance to state, local, territorial, and Tribal governments working in partnership with CBOs on environmental justice issues. In 2023, the program selected its 88 awardees, distributing about \$84 million in awards of up to \$1 million each.

The only program yet to award its funds is the Environmental and Climate Justice Community Change Grants. This program is responsible for distributing \$2 billion, the bulk of ECJ's funds, to support environmental and climate justice activities that benefit disadvantaged communities. The request for proposals will remain open for the majority of 2024, giving organizations ample time to prepare application materials [58].

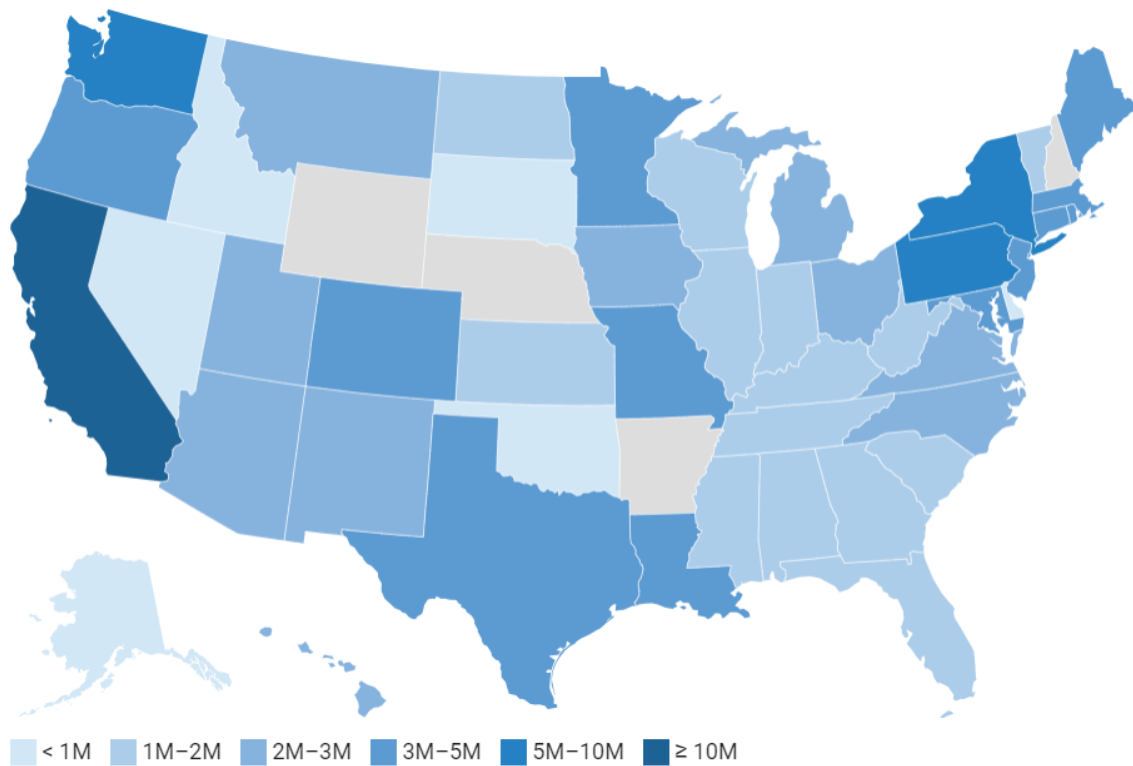
Table 1: EJ Thriving Communities Grantmaking (EJ TCGM) Program Grantmakers

Grantmaker	Location	Funding Award
Research Triangle Institute	North Carolina	\$100,000,000
Climate Justice Alliance	California	\$50,000,000
Social and Environmental Entrepreneurs (SEE), Inc.	California	\$50,000,000
JSI Research and Training Institute, Inc.	Colorado	\$50,000,000
Green & Healthy Homes Initiative Inc.	Maryland	\$50,000,000
Health Resources in Action	Massachusetts	\$50,000,000
The Minneapolis Foundation	Minnesota	\$50,000,000
Fordham University	New York	\$50,000,000
Texas Southern University	Texas	\$50,000,000
Institute For Sustainable Communities	Vermont	\$50,000,000
Philanthropy Northwest	Washington	\$50,000,000

Source: [59]

California received 19 grants totaling \$13.5 million, followed by Washington (\$8.2 million), New York (\$6.1 million), and Pennsylvania (\$5.3 million) (Figure 13). Notably, all states but Wyoming, Nebraska, Arkansas, and New Hampshire received at least one EJCPS or EJC2G grant. It remains to be seen if the Grantmakers subgrants and Community Change Grants will direct funding to the states that have not yet won an EJC award as they are distributed in subsequent years.

Figure 13: EJG2G and EJG2G Awarded Funding by State



This figure includes funding awarded to nonprofits and public agencies via the EJG2G Cooperative Agreement Program and the EJG2G Program. EJ TCGM Program Grantmaker awards are excluded since they are expected to be further distributed as subgrants in the coming year.

Source: [2]

Urban and Community Forestry

IRA also made a historic investment in urban forestry, appropriating \$1.5 billion to the U.S. Forest Service to increase equitable access to trees and green spaces. Urban forests provide many benefits to communities and serve as important ways to mitigate and adapt to climate change [60]. They reduce surface and building temperatures, ameliorating the impacts of extreme heat, especially in dense urban communities. They provide numerous benefits to air quality, including sequestering carbon dioxide from the atmosphere. They can also aid in stormwater management and flood resilience, foster urban habitat and ecology, and provide spaces for community recreation.

In September 2023, the Forest Service announced the 385 grant proposals selected to receive over \$1 billion in total funding. The selected projects span all fifty states, the District of Columbia, several tribal communities, two U.S. territories, and three U.S.-affiliated

Pacific Islands. 100 percent of the benefits of all funded projects are expected to flow to DACs, well outpacing the Justice40 goal. Eighty percent of the funding was reserved for smaller grants, but 12 awards were also made through a national ‘pass through’ to partners, who received \$52 million in primary grants and an additional \$208 million to redistribute to smaller grantees.

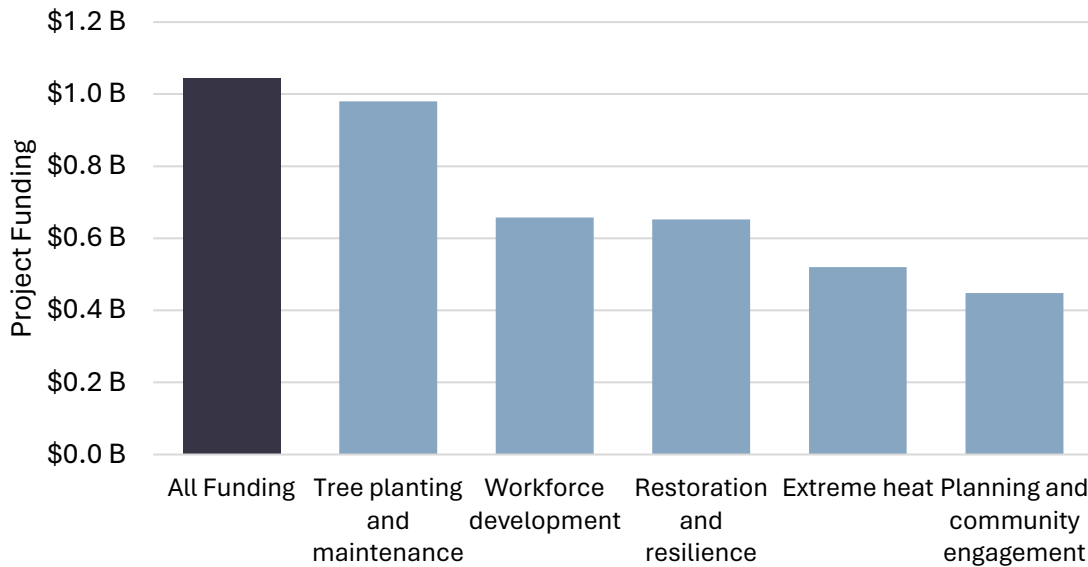
Table 2. Urban and Community Forestry National Pass-through Grants

Grantee	Primary Grant	Pass-through Funding
1890 Universities Foundation	\$7,000,000	\$28,000,000
American Forests	\$10,000,000	\$40,000,000
Arbor Day Foundation	\$10,000,000	\$40,000,000
Green Latinos	\$5,000,000	\$20,000,000
Groundwork USA	\$2,000,000	\$8,000,000
Hispanic Access Foundation	\$5,000,000	\$20,000,000
River Network	\$2,400,000	\$9,600,000
Sustainable Forestry Initiative	\$1,000,000	\$4,000,000
The Student Conservation Association, Inc.	\$2,000,000	\$8,000,000
Trust for Public Land	\$2,000,000	\$8,000,000
Urban Sustainability Directors Network	\$5,600,000	\$22,400,000
Total	\$52,000,000	\$208,000,000

Source: [61]

Nearly all the program grants will include some tree planting and maintenance activities (Figure 14). In addition to planting physical trees, many projects also include activities related to workforce development, climate resilience, combating extreme heat, and community engagement efforts tied to urban forestry.

Figure 14: Urban and Community Forest Grants by Project Category



Urban and Community Forest Grant projects may include activities falling into more than one project category, therefore, project funding totals by category will not add up to the total amount of funding distributed by the program.

Source: [2, 61]

What's Ahead for 2024

In 2024, we expect the pace of funding dispersed to continue to ramp up, as states and federal agencies prioritize funding awards. Federal programs administering funds on an annual basis will make their third round of funding of IJA-supported grants and their second round of IRA-supported grants. However, there are also several one-time funding opportunities the climate community is eagerly anticipating.

First, the EPA will disseminate a historic boost in climate financing capital via the Greenhouse Gas Reduction Fund. In April 2024, the agency announced the winners of the five Clean Communities Investment Accelerator awards and three National Clean Investment Fund awards [5]. Together, these grantees are expected to expand the national green bank network significantly, infusing local communities across the country with the financial support required to fund clean energy projects. In the coming months, the EPA is expected to announce the winners of the Solar for All competition, which will provide up to 60 public agencies, Tribal governments, and nonprofits with the capital to expand financial access to

rooftop solar for millions of low-income households [62]. Altogether, the program will distribute \$27 billion nationally, making it one of the most significant investments in the IRA.

Second, following the recent release of the Treasury Department's final rules on direct/elective pay, we expect to see a historic uptake of IRA's clean energy tax credits by tax-exempt organizations that have been traditionally unable to directly access the incentives [63, 64]. Direct pay will allow entities like state and local governments, Tribal governments, rural electric cooperatives, school districts, and nonprofits to take advantage of many of IRA's tax credits to finance renewable energy projects.

Significant funds will also be distributed to state and local governments for the implementation of their Priority Climate Action Plans via CPRG [65]. In 2023, the program gave 46 states, the District of Columbia, Puerto Rico, and 79 metropolitan statistical areas funding to help develop their plans,³ which were due in March 2024 [66]. The program also awarded \$25 million in planning grants to tribes and \$2 million to territory governments. The CPRG Implementation Grant's General Competition closed on April 1, 2024, and awards ranging from \$2 million to \$500 million for states are anticipated to be awarded later this year.

Finally, in 2024 states also will finish setting up their Home Energy Rebate programs: Home Efficiency Rebates (HOMES) and High-Efficiency Electric Home Rebate Act (HEEHRA) [67, 68, 69]. Created by IRA in 2022, HOMES and HEEHRA will distribute \$4.3 billion and \$4.5 billion to state energy offices respectively to support home energy rebates through 2031. HOMES will provide rebates for energy-saving retrofits in single-family and multi-family buildings, while HEEHRA will provide point-of-sale rebates that cover 100 percent of electrification project costs for low-income households and half of project costs for moderate-income households.

We also expect construction at sites of more awarded projects to break ground. As these projects materialize, there will be more opportunities to track and measure impacts. The Climate Program Portal will continue to report on these updates as they take shape. Meanwhile, there is already talk of what the next reauthorization of the federal surface transportation program may include. This discussion will be shaped by program outcomes over the next 12 months.

³ Florida, Iowa, Kentucky, and South Dakota [declined](#) their funds, which were reallocated to MSAs within the states.

References

- [1] T. Taylor, "2022 in Review," May 2023. [Online]. Available: <https://atlaspolicy.com/2022-in-review-a-year-of-federal-climate-investments/>.
- [2] Atlas Public Policy, "Climate Program Portal Outcomes Dashboard," 2022. [Online]. Available: <https://climateprogramportal.org/outcomes-dashboard/>. [Accessed April 2024].
- [3] GSA, "Bipartisan Infrastructure Law (BIL) Maps Dashboard," [Online]. Available: <https://d2d.gsa.gov/report/bipartisan-infrastructure-law-bil-maps-dashboard>. [Accessed April 2023].
- [4] Environmental Protection Agency, "EJ Scorecard and EPA," 2021. [Online]. Available: <https://ejscorecard.geoplatform.gov/scorecard/>. [Accessed 2023].
- [5] Environmental Protection Agency, "Biden-Harris Administration Announces \$20 Billion in Grants to Mobilize Private Capital and Deliver Clean Energy and Climate Solutions to Communities Across America," 4 April 2024. [Online]. Available: <https://www.epa.gov/newsreleases/biden-harris-administration-announces-20-billion-grants-mobilize-private-capital-and>. [Accessed April 2024].
- [6] D. Radin, "Rancho Cucamonga to Vegas high-speed rail receives \$3 billion in federal funds," 5 December 2023. [Online]. Available: <https://www.cbsnews.com/losangeles/news/rancho-cucamonga-to-vegas-high-speed-rail-receives-3-billion-in-federal-funds/>.
- [7] Loan Programs Office, "LPO Announces Conditional Commitment for Loan to BlueOval SK to Further Expand U.S. EV Battery Manufacturing Capacity," 22 June 2023. [Online]. Available: <https://www.energy.gov/lpo/articles/lpo-announces-conditional-commitment-loan-blueoval-sk-further-expand-us-ev-battery>.
- [8] TerraPower, "TerraPower Purchases Land in Kemmerer, Wyoming for Sodium Reactor Demonstration Project," 16 August 2023. [Online]. Available: <https://www.terrapower.com/terrapower-purchases-land-in-kemmerer-wyoming-for-sodium-reactor-demonstration-project/>.
- [9] North Dakota Office of the Governor, "Burgum applauds \$350M DOE grant awarded to Minnkota for carbon capture demonstration project," 14 December 2023. [Online]. Available: <https://www.governor.nd.gov/news/burgum-applauds-350m-doe-grant-awarded-minnkota-carbon-capture-demonstration-project>.

- [10] The White House Briefing Room, "FACT SHEET: President Biden Announces Billions to Deliver World-Class High-Speed Rail and Launch New Passenger Rail Corridors Across the Country," 8 December 2023. [Online]. Available: <https://www.whitehouse.gov/briefing-room/statements-releases/2023/12/08/fact-sheet-president-biden-announces-billions-to-deliver-world-class-high-speed-rail-and-launch-new-passenger-rail-corridors-across-the-country/>.
- [11] U.S. Department of Transportation, "Biden-Harris Administration Announces \$1.4 Billion in Infrastructure Funding for 70 Projects That Will Improve Rail Safety, Strengthen Supply Chains, and Add Passenger Rail Service," 25 September 2023. [Online]. Available: <https://www.transportation.gov/briefing-room/biden-harris-administration-announces-14-billion-infrastructure-funding-70-projects>.
- [12] Federal Railroad Administration, "Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program," [Online]. Available: <https://railroads.dot.gov/grants-loans/consolidated-rail-infrastructure-and-safety-improvements-crisi-program>.
- [13] U.S. Department of Transportation, "RAISE Discretionary Grants," 30 November 2023. [Online]. Available: <https://www.transportation.gov/RAISEgrants>.
- [14] U.S. Department of Transportation, "2023 SS4A Awards," 13 December 2023. [Online]. Available: <https://www.transportation.gov/grants/ss4a/2023-awards>.
- [15] U.S. Department of Transportation, "Safe Streets and Roads for All (SS4A) Grant Program," 2021. [Online]. Available: <https://www.transportation.gov/grants/SS4A>.
- [16] Office of Nuclear Energy, "Advanced Reactor Demonstration Program," [Online]. Available: <https://www.energy.gov/ne/advanced-reactor-demonstration-program>.
- [17] Office of Clean Energy Demonstrations, "Regional Direct Air Capture Hubs," [Online]. Available: <https://www.energy.gov/oced/DACHubs>.
- [18] TerraPower, "TerraPower Announces Contract Awards for Sodium Vendors," 1 August 2023. [Online]. Available: <https://www.terrapower.com/terrapower-announces-contract-awards-for-sodium-vendors/>.
- [19] X-energy, "Congress Appropriates ~\$1.1B Dollars to X-energy's ARDP Project with Historic Legislation Recognizing Clean Energy Supply as vital to US Infrastructure and Economic Health.," 15 November 2021. [Online]. Available: <https://x-energy.com/media/news-releases/congress-appropriates-1-billion-dollars-to-x-energys-ardp-project>.
- [20] Department of Energy, "Biden-Harris Administration Announces Up To \$1.2 Billion For Nation's First Direct Air Capture Demonstrations in Texas and Louisiana," 11 August 2023.

- [Online]. Available: <https://www.energy.gov/articles/biden-harris-administration-announces-12-billion-nations-first-direct-air-capture>.
- [21] Office of Fossil Energy and Carbon Management, "Project Selections for FOA 2735: Regional Direct Air Capture Hubs – Topic Area 1 (Feasibility) and Topic Area 2 (Design)," [Online]. Available: <https://www.energy.gov/fecm/project-selections-foa-2735-regional-direct-air-capture-hubs-topic-area-1-feasibility-and>.
- [22] Grid Deployment Office, "Grid Resilience and Innovation Partnerships (GRIP) Program," [Online]. Available: <https://www.energy.gov/gdo/grid-resilience-and-innovation-partnerships-grip-program>.
- [23] Federal Transit Administration, "Low or No Emission Grant Program - 5339(c)," [Online]. Available: <https://www.transit.dot.gov/lowno>.
- [24] Loan Programs Office, "Advanced Technology Vehicles Manufacturing Loan Program," [Online]. Available: <https://www.energy.gov/lpo/advanced-technology-vehicles-manufacturing-loan-program-0>.
- [25] Office of Clean Energy Demonstrations, "Regional Clean Hydrogen Hubs," [Online]. Available: <https://www.energy.gov/oced/regional-clean-hydrogen-hubs-0>.
- [26] Office of Clean Energy Demonstrations, "Regional Clean Hydrogen Hubs Selections for Award Negotiations," [Online]. Available: <https://www.energy.gov/oced/regional-clean-hydrogen-hubs-selections-award-negotiations>.
- [27] U.S. Department of the Treasury, "U.S. Department of the Treasury, IRS Release Guidance on Hydrogen Production Credit to Drive American Innovation and Strengthen Energy Security," 23 December 2023. [Online]. Available: <https://home.treasury.gov/news/press-releases/jy2010>.
- [28] J. Spector, "The brewing rift within the Biden admin's clean hydrogen strategy," 29 February 2024. [Online]. Available: <https://www.canarymedia.com/articles/hydrogen/the-brewing-rift-within-the-biden-admins-clean-hydrogen-strategy>.
- [29] U.S. Department of Transportation, "Federal Programs Directory: Congestion Mitigation and Air Quality (CMAQ) Improvement Program," [Online]. Available: <https://www.transportation.gov/sustainability/climate/federal-programs-directory-congestion-mitigation-and-air-quality-cmaq>.
- [30] U.S. Department of Transportation, "Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (PROTECT)," [Online]. Available:

<https://www.transportation.gov/rural/grant-toolkit/promoting-resilient-operations-transformative-efficient-and-cost-saving>.

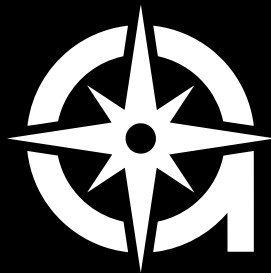
- [31] U.S. Department of Transportation, "Carbon Reduction Program," [Online]. Available: <https://www.transportation.gov/priorities/climate-and-sustainability/carbon-reduction-program>.
- [32] U.S. Department of Energy, "National Electric Vehicle Infrastructure (NEVI) Formula Program," [Online]. Available: <https://afdc.energy.gov/laws/12744>.
- [33] The White House, "A Guidebook to the Bipartisan Infrastructure Law for State, Local, Tribal and Territorial Governments, and Other Partners," May 2022. [Online]. Available: <https://www.whitehouse.gov/wp-content/uploads/2022/05/BUILDING-A-BETTER-AMERICA-V2.pdf>.
- [34] The White House Briefing Room, "FACT SHEET: President Biden Advances Vision for World Class Passenger Rail by Delivering Billions in New Funding," 6 November 2023. [Online]. Available: <https://www.whitehouse.gov/briefing-room/statements-releases/2023/11/06/fact-sheet-president-biden-advances-vision-for-world-class-passenger-rail-by-delivering-billions-in-new-funding/>.
- [35] "The High-Speed Intercity Passenger Rail (HSIPR) Grant Program: Overview," 16 October 2016. [Online]. Available: https://www.everycrsreport.com/files/20161018_R44654_cd14f3dd19e94d2b44a7ffea64c28587b783a281.pdf.
- [36] F. R. Administration, "Federal-State Partnership for State of Good Repair Grant Program (FY 2017 - 2021)," December 2022. [Online]. Available: <https://railroads.dot.gov/grants-loans/competitive-discretionary-grant-programs/federal-state-partnership-state-good-repair-1>.
- [37] Federal Railroad Administration, "Federal-State Partnership for Intercity Passenger Rail Grant Program," April 2024. [Online]. Available: <https://railroads.dot.gov/federal-state-partnership-intercity-passenger>.
- [38] California High-Speed Rail Authority, "Topographic Statewide High-Speed Rail Alignment Map," [Online]. Available: https://hsr.ca.gov/wp-content/uploads/docs/newsroom/maps/Statewide_topo.pdf.
- [39] Department of Energy, "Biden-Harris Administration Announces \$3.5 Billion for Largest Ever Investment in America's Electric Grid, Deploying More Clean Energy, Lowering Costs, and Creating Union Jobs," 18 October 2023. [Online]. Available:

<https://www.energy.gov/articles/biden-harris-administration-announces-35-billion-largest-ever-investment-americas-electric>.

- [40] Grid Deployment Office, "Biden-Harris Administration Announces Up to \$3.9 Billion to Modernize and Expand America's Power Grid," 14 November 2023. [Online]. Available: <https://www.energy.gov/gdo/articles/biden-harris-administration-announces-39-billion-modernize-and-expand-americas-power>.
- [41] Department of Energy, "DE-FOA-0003195: BIL - GRID RESILIENCE AND INNOVATION PARTNERSHIPS (GRIP)," [Online]. Available: <https://infrastructure-exchange.energy.gov/Default.aspx#FoalId55babff9-cbbc-4df6-b5c0-ed8fdab60492>.
- [42] J. Lea, "Stories in the Outcomes Data," 27 March 2024. [Online]. Available: <https://climateprogramportal.org/2024/03/27/stories-in-the-outcomes-data/>.
- [43] Grid Deployment Office, "CREATING AN ADAPTABLE GRID IN OKLAHOMA," October 2023. [Online]. Available: https://www.energy.gov/sites/default/files/2023-12/DOE_GRIP_2007_Oklahoma%20Gas%20and%20Electric%20%28OG%26E%29_v4_REL EASE_508.pdf.
- [44] Grid Deployment Office, "REDUCING WILDFIRES AND INCREASING RESILIENCE IN CENTRAL AND WESTERN STATES," October 2023. [Online]. Available: https://www.energy.gov/sites/default/files/2023-12/DOE_GRIP_1022_Holy%20Cross%20Energy_v4_RELEASE_508_0.pdf.
- [45] Grid Deployment Office, "EFFICIENT AND COLLABORATIVE TRANSMISSION PLANNING FOR THE CENTRAL UNITED STATES," [Online]. Available: https://www.energy.gov/sites/default/files/2023-11/DOE_GRIP_3048_MN%20Dept%20of%20Commerce_v4_RELEASE_508.pdf.
- [46] California Air Resources Board, "New report shows how California is leading the nation in cleaning up school buses," 12 October 2022. [Online]. Available: <https://ww2.arb.ca.gov/news/new-report-shows-how-california-leading-nation-cleaning-school-buses>.
- [47] M. Levinson, P. Burgoyne-Allen, A. Huntington and N. Hutchinson, "Recommended Total Cost of Ownership Parameters for Electric School Buses: Summary of Methods and Data," 30 January 2023. [Online]. Available: <https://www.wri.org/research/recommended-total-cost-ownership-parameters-electric-school-buses-methods-data>.
- [48] Electric School Bus Initiative, "Why We Need to Transition to Electric School Buses," 17 October 2022. [Online]. Available: <https://electricschoolbusinitiative.org/why-we-need-transition-electric-school->

- [58] Environmental Protection Agency, "Inflation Reduction Act Community Change Grants Program," [Online]. Available: <https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program>.
- [59] Environmental Protection Agency, "The Environmental Justice Thriving Communities Grantmaking Program," April 2024. [Online]. Available: <https://www.epa.gov/environmentaljustice/environmental-justice-thriving-communities-grantmaking-program>.
- [60] United States Forest Service, "Urban & Community Forestry Inflation Reduction Act Grants," [Online]. Available: <https://www.fs.usda.gov/managing-land/urban-forests>.
- [61] Forest Service, "Urban and Community Forestry Grants - 2023 Grant Awards," [Online]. Available: <https://www.fs.usda.gov/managing-land/urban-forests/ucf/2023-grant-funding>.
- [62] Environmental Protection Agency, "Solar for All," [Online]. Available: <https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all>.
- [63] Internal Revenue Service, "Treasury, IRS finalize rules on elective payments of certain clean energy credits under the Inflation Reduction Act," 5 March 2024. [Online]. Available: <https://www.irs.gov/newsroom/treasury-irs-finalize-rules-on-elective-payments-of-certain-clean-energy-credits-under-the-inflation-reduction-act>.
- [64] B. Martucci, "IRS direct pay framework opens doors for tax-exempt entities to access clean energy credits," Facilities Dive, 29 March 2024. [Online]. Available: <https://www.facilitiesdive.com/news/irs-direct-pay-clean-energy-tax-credits-sustainability-incentives/711694/>.
- [65] Environmental Protection Agency, "Climate Pollution Reduction Grants," [Online]. Available: <https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants>.
- [66] J. Clayworth, "Iowa rejects more federal money, this time for pollution reduction," Axios, 5 April 2023. [Online]. Available: <https://www.axios.com/local/des-moines/2023/04/05/iowa-federal-grants-reject-pollution-housing>.
- [67] Office of State and Community Energy Programs, "Saving Energy and Money for American Homes, Communities, Businesses, and Industries," [Online]. Available: <https://www.energy.gov/scep/office-state-and-community-energy-programs>.
- [68] Office of State and Community Energy Programs, "Home Efficiency Rebates," [Online]. Available: <https://www.energy.gov/scep/home-efficiency-rebates>.

[69] Office of State and Community Energy Programs, "Home Electrification and Appliance Rebates," [Online]. Available: <https://www.energy.gov/scep/home-electrification-and-appliance-rebates>.



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