

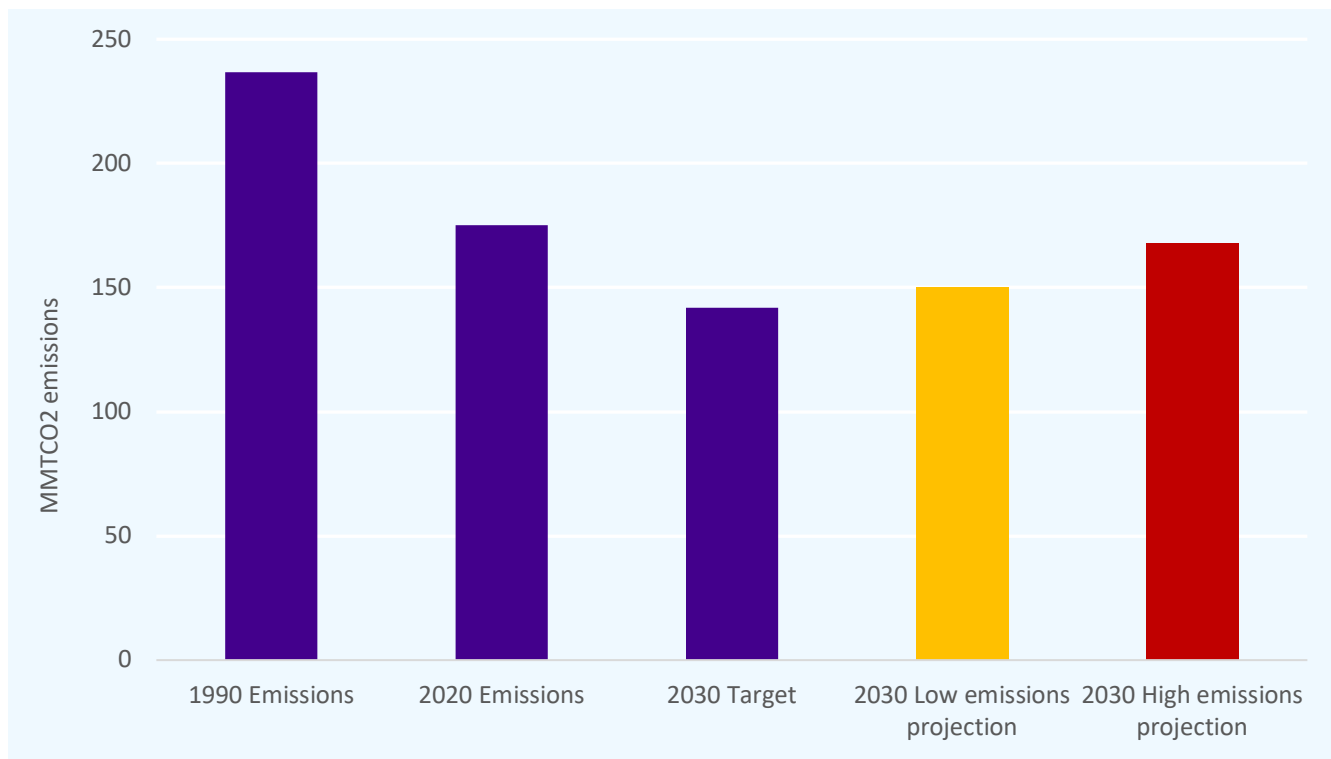
X. Climate

New York’s Climate Goals

The climate crisis has come to the foreground as one of the most urgent challenges of this era. Before the Biden administration took office in 2020, the United States federal government had enacted very little policy to move US energy usage and infrastructure towards more sustainable models. At that time, state policy filled a large void in federal climate policy, leading the way for the US to meet global emissions targets. However, over the past few years, with the passage of the Inflation Reduction Act (IRA), Infrastructure Investment and Jobs Act (IIJA), and a general trend in consumer sentiment towards more environmentally sustainable products such as electric vehicles, both the federal government and the private sector have become more involved in the transition to a sustainable economy. Nonetheless, significant state action is still required to meet the US’s climate goals.⁵³

The State’s policy goals are bold, but remain in the early stages of development, investment, and implementation. As such, there is a high risk of falling short of achieving key targets at the current rate of investment. According to a December 2023 report by the Environmental Defense Fund, the 24 states considered “leadership state” in climate policy are collectively projected to reduce net emissions by 23-38 percent of 2005 levels by 2030, which is far short of their target of reducing emissions 50 percent below 2005 levels.⁵⁴ Estimates by the Environmental Defense Fund demonstrate that New York may be as much as 18 percent over targeted emissions in 2030.

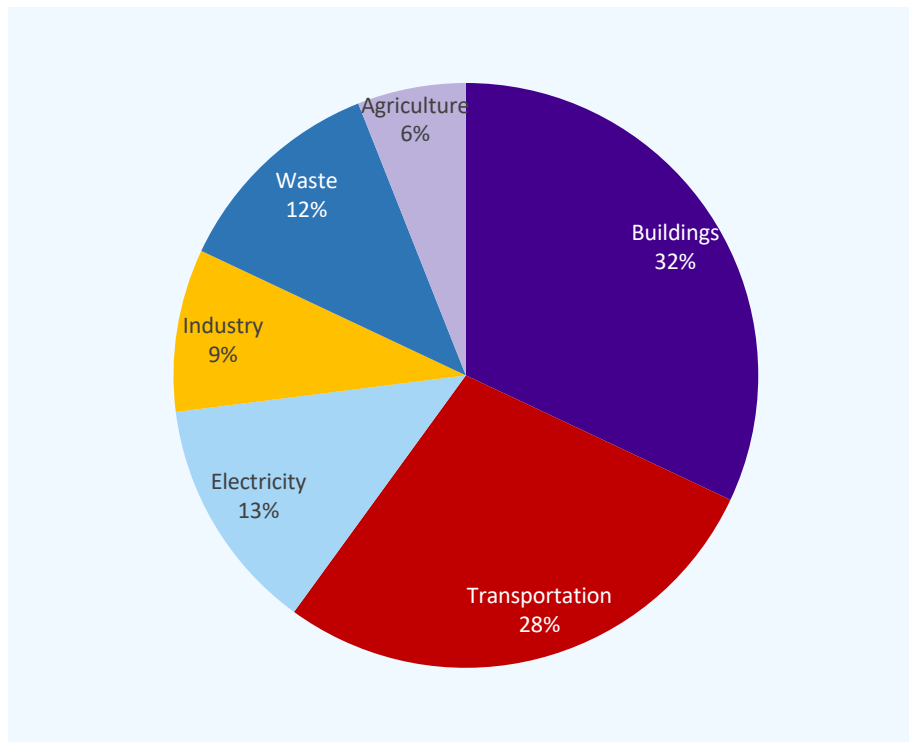
Figure 10.1. New York’s CO₂ emissions levels and projections compared to 2030 target.



Note: Table reproduced from the Environmental Defense Fund (<https://www.edf.org/sites/default/files/2023-11/EDF-State-Emissions-Gap-December-2023.pdf>)

According to the New York Climate Action Council, as of 2019, 32 percent of New York’s GHG emissions came from buildings, 28 percent from transportation, 13 percent from electricity usage, and the remaining 27 percent from a combination of industry, waste, and agriculture.⁵⁵ State policy targets each of these sectors to reduce emissions and build sustainable state energy infrastructure. As the State electrifies transit and buildings, emissions in the state will increasingly depend on the emissions produced by electricity generation.

Figure 10.2. New York State emission sources, 2019



Note: Chart reproduced from the Climate Action Commission’s Scoping Plan, 2022. (Downloadable at <https://climate.ny.gov/resources/scoping-plan/>).

Climate Leadership and Community Protection Act (CLCPA)

In 2019, New York passed the Climate Leadership and Community Protection Act (CLCPA), establishing ambitious greenhouse gas emissions targets for the state. Specifically, the CLCPA:

- Commits New York to **reduce greenhouse gas (GHG) emissions** by 40 percent of 1990 levels by 2030, and by 85 percent of 1990 levels by 2050.
- Sets targets that 70 percent of the state’s **energy comes from renewable sources** by 2030 and 100 percent of the state’s energy comes from renewable sources by 2040.
- Mandates that actions be taken to mitigate climate change and **prioritize equity and justice for “Disadvantaged Communities,”** particularly those who have borne the brunt of climate change impacts and pollution.

To accomplish these ambitious goals, the CLCPA establishes the Climate Action Council, which was mandated with creating a “Scoping Plan” that would be updated every five years after its first publication (December 2022). The Scoping Plan produced by the Climate Action Council gives a more detailed account of the State’s plan to transition New York to a “just and sustainable economy,” broken down by seven sectors: transportation, buildings, electricity, industry, agriculture, forestry, and waste. Each sector has its own transition plan laid out by the Scoping Plan. For transportation, buildings, and electricity, the Scoping Plan lays out key policy targets (see Table 10.1).

Table 10.1. CLCPA targets for three highest emitting sectors of the economy

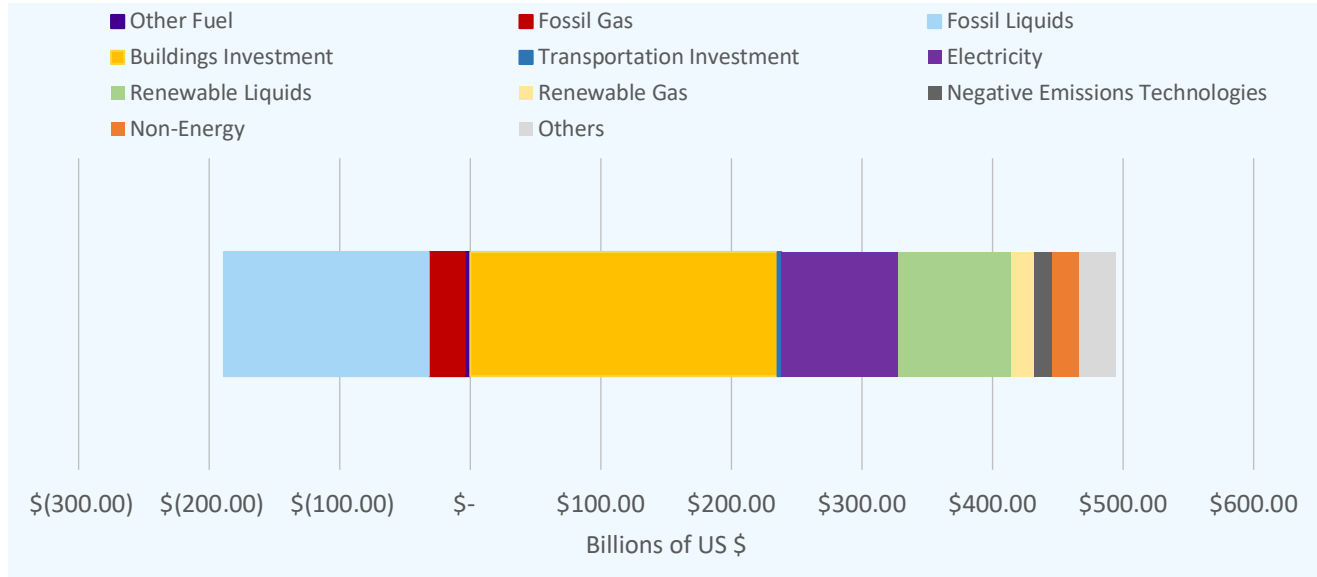
	Target Year	Targets
Transportation	2030	All new light-duty vehicle sales and half of new medium- and heavy-duty vehicle sales will be zero-emission. A substantial portion of personal transportation in urbanized areas will shift to public transportation.
	2050	All vehicles in NY will have zero tailpipe emissions. New Yorkers will have substantially greater access to low-carbon modes of transportation including public transportation.
Buildings	2030	85% of homes and commercial building space statewide electrified with mix of heat pumps and thermal energy networks.
Electricity	2025	*Install 6,000 megawatts of distributed solar
	2030	*70% of statewide electricity come from renewable energy sources; *Install 3,000 megawatts of energy storage.
	2035	*Install 9,000 megawatts of offshore wind.
	2040	*NY achieves zero-emission electricity system.

Note: Table reflects policy goals as stated in the finalized Scoping Plan (<https://climate.ny.gov/resources/scoping-plan/>). Targets marked with an asterisk (*) are mandated by the CLCPA.

The CLCPA does not commit to specific funding levels needed to achieve the policy’s ambitious goals. The Scoping Plan estimates the cost of achieving the CLCPA’s policy goals, amounting to a net present value of approximately \$300 billion in private and public spending over and above what would occur in the absence of the CLCPA policy.⁵⁶ In other words, the CLCPA assumes the current trends in private sector activity will drive most of the energy transition (for instance, consumers buying electric vehicles) but that state policy measures are needed to fully meet CLCPA goals. Over \$200 billion in costs are

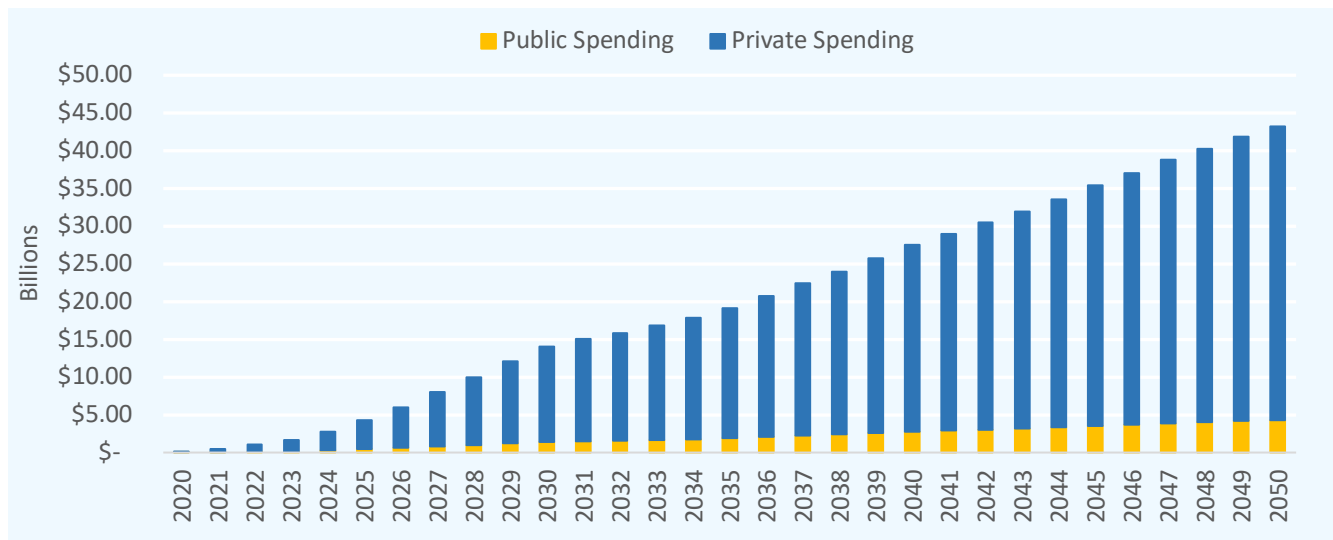
required to pay for building investments alone. To stimulate the necessary private investment in the transition, an analysis by a team of economists at the University of Massachusetts, Amherst finds that the public sector needs to bear about 10-20% of this additional cost, or \$30-60 billion between now and 2050 (in net present value) – approximately \$1.5-3 billion per year.⁵⁷

Figure 10.2. Net present value of total public and private costs and savings from CLCPA between 2020 and 2050



Note: These cost estimates specifically relate to the “Low Fossil Fuel” scenario in the CLCPA scoping plan, which was estimated to be the highest cost of all analyzed scenarios. Other scenarios reflect similar cost breakdowns and total costs. <https://climate.ny.gov/resources/scoping-plan/>

Figure 10.3. Net direct annual spending needed to achieve CLCPA



Note: These cost estimates specifically relate to the “Low Fossil Fuel” scenario in the CLCPA scoping plan, which was estimated to be the highest cost of all analyzed scenarios. Other scenarios reflect similar cost breakdowns and total costs. Public spending is estimated at 10% of total CLCPA spending. <https://climate.ny.gov/resources/scoping-plan/>

Cap-and-Invest Program

One of the key programs that the State government is relying on to meet the CLCPA goals is a Cap-and-Invest program (NYCI). The program is currently being designed by the Department of Environmental Conservation (DEC) and the New York State Energy Research and Development Authority (NYSERDA). The program would put an annual cap on the amount of emissions permitted in the state, which would decline each year in tandem with the State's emission targets. The Cap-and-Invest program is in the early stages of development and is currently seeking public feedback on three main components of the program: 1) The mandatory reporting rule, 2) the cap-and-invest rule, and 3) the auction rule.⁵⁸ In principle, the program works by setting a maximum level of emissions allowed in the state (the "cap"), and then requiring large-scale emitters to purchase the rights to emission "allowances" via auction. By assigning a price to GHG emissions, the law would disincentivize emissions for large-scale emitters while also recouping funds, which would then be used to further invest in climate change mitigation and redistribution to adversely impacted communities.

- Mandatory GHG Reporting Program Rule: The mandatory GHG reporting Program rule will define which emitters in the state are required to report their greenhouse gas emissions to State regulators, how that group is chosen, and how those actors are required to report their emissions. Many of the mandatory reporters would also be required to purchase allowances for their emissions under the cap-and-invest rule (though the proposal states that there may be cases in which an entity that is required to report emissions is not required to purchase allowances, and vice versa).
- Cap-and-Invest Rule: The cap-and-invest rule sets the terms of the cap-and-invest program, including the emissions cap in the state. The emissions cap will be set to align with the CLCPA emissions targets for 2030 and 2050. The overall cap will include all emissions in the state both from emitters that are required to purchase allowances and from those who are not required to purchase allowances. The cap-and-invest rule will define threshold emission levels that require an entity to purchase GHG emission allowance. As of now, the proposed rule sets thresholds separately for stationary GHG emitters (any structure in NY with significant emissions), fuel suppliers with end-users in NY, and the electricity sector (potentially including both electricity generation and import). The proposed cap-and-invest rule also includes price floor and price ceiling mechanisms as part of the auction.
- Auction Rule: The auction rule concerns the format of the auction for GHG allowances. These auctions will be designed and run by NYSERDA. The auction will, under the current proposal, be a single-round, closed-bid, uniform price auction. Entities will be permitted to submit multiple bids. There will be a simplified bidding process for entities with below a certain level of emissions to make the burden of entry lesser for small entities.

Recent presentations made by the Department of Environmental Conservation (DEC) and NYSERDA report that the Cap-and-Invest program is expected to generate \$6-12 billion in revenue each year.⁵⁹ Of that revenue, about 30-33 percent is mandated to be paid back to New York residents, while the remaining 67-70 percent will be invested in CLCPA policy.

As with the CLCPA more generally, the Cap-and-Invest program considers its impact on what the CLCPA Scoping Plan defines as “Disadvantaged Communities.” For example, the proposed rules consider options to set lower emissions caps for entities located near residential areas deemed disadvantaged communities. Under CLCPA, at least 35 percent of program benefits must go to Disadvantaged Communities, as defined by the CLCPA Scoping Plan.

It is important to note that New York’s electricity system is already part of a cap-and-invest program called the Regional Greenhouse Gas Initiative (RGGI), which is an agreement among twelve Northeastern states to participate in a cap-and-trade program for carbon dioxide produced by power plants. Since 2005, RGGI claims to have reduced emissions from power plants by 50 percent while also raising over \$7 billion.⁶⁰

Environmental Bond Act

The Environmental Bond Act was a ballot proposition passed by New Yorkers in 2022. The law authorizes \$4.2 billion in bond-financed state spending to support climate change mitigation, climate change adaptation efforts, and programs to support green jobs. The Bond Act requires that \$1.1 billion be spent on “restoration and flood risk reduction,” \$650 million be used for land conservation, \$1.5 billion for climate change mitigation efforts, and \$650 million for water quality improvement. To date, it appears that only about \$30 million of the \$4.2 billion available has been issued, according to the last two years of the State’s Capital Budget financial plans.

Table 10.2. Projected debt issued by the Environmental Bond Act (millions of USD)

	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	Total:
Issued Debt:	\$5	\$25	\$100	\$100	\$150	\$200	\$200	\$780 million
Remaining Capital:	\$4,195	\$4,170	\$4,070	\$3,970	\$3,820	\$3,620	\$3,420	\$3.4 billion

Note: Data are projections reported in the state’s Capital Program Financial Plan for FY24 and FY25. The reported figures are the most up-to-date estimates available.

Executive Budget Proposals

The fiscal year 2025 executive budget makes important changes to the State’s regulations and administrative structure that will help the State better meet CLCPA goals. For example, the executive budget proposes measures that would streamline the process of permitting renewable energy facilities, as well as measures that would lower the total amount of natural gas used by New Yorkers. However, the executive budget does not include any new major spending or investments that may be needed to meet the CLCPA targets by 2030.

Renewable Action Through Project Interconnection and Deployment (RAPID) Act

The RAPID Act transfers the Office of Renewable Energy Siting from the Department of State to the Department of Public Service. The rationale for this change is that there will be efficiencies associated with environmental review and permitting of renewable energy facilities and transmission facilities.

These efficiencies will help the State achieve targets set out in the CLCPA. The law states that all employees of the Office of Renewable Energy Siting will be transferred and that employees will maintain their current bargaining unit. There is no expected fiscal impact.

Affordable Gas Transition Act (AGTA)

The Affordable Gas Transition Act amends the law in a variety of ways that are intended to allow the Public Service Commission to meet the greenhouse gas emission reduction requirements set forth in the Climate Leadership and Community Protection Act. The amendments include:

- 1) Eliminate the requirement that gas corporations extend service to all new customers and offset the cost of the first 100 feet of infrastructure to all ratepayers (the “100-foot rule”),
- 2) Give the Public Service Commission the power to prohibit the use of natural gas when that discontinuance is required to meet the State’s energy policy,
- 3) Empower the Public Service Commission to review capital construction plans for gas corporations and establish a process to examine feasible alternatives in order to align with climate justice goals.

This proposal has many similarities to the NY HEAT Act (S2016A), proposed by the State Senate in last year’s budget negotiations. The legislation would shift New York’s energy landscape away from natural gas and towards renewable energy. Notably, and unlike the NY HEAT Act (which would legislate that energy should not cost more than 6 percent of a household’s income), the AGTA does not include any affordability provisions regarding the price of energy. There is no expected fiscal impact.

Clear Air Compliance and Pollution Reduction

The Clean Air Compliance and Pollution Reduction amendment alters the fee structure of the Department of Environmental Conservation’s State Air Quality Control Program. The amendment changes the fee structure so that rather than having the fees correspond to emission sites, there will be flat annual fees for each facility. The bill also adjusts fees so that the Operating Permit Program is sufficiently funded (which it has not been in recent years). The amendment additionally allows the Department of Environmental Conservation to impose fees on emissions in the New York Metropolitan Area to meet compliance with the National Ambient Air Quality Act. Though there is no dollar amount estimated for this bill, the provision will help the Department of Environmental Conservation meet its budgetary requirements and may also result in additional revenue from the updated fees.

Dormitory Authority of the State of New York Omnibus State & Municipal Authorization

This bill expands the definitions of “Dormitory” and “Educational Institution” under the Dormitory Authority of the State of New York (DASNY) to include any state agency, county, city, town, and village that is undertaking a project funded by the following:

1. the New York State Environmental Bond Act of 2022;
2. the American Rescue Plan Act of 2021;
3. the Infrastructure Investment and Jobs Act of 2021; or
4. the Inflation Reduction Act of 2022.

The bill also expands the definition of “Dormitory” to include municipal entities receiving loans or grants from:

1. the downtown revitalization program; or
2. the NY Forward grant program.

The programs are designed to fund projects associated with housing, community renewal, economic development, and transportation.

Finally, the bill expands the definition of “municipal building” in the health and mental hygiene facility improvements act to include any building or infrastructure improvement project.

The bill has the potential to expedite state projects related to climate, infrastructure, economic development, and healthcare facilities. There are no direct budget implications.

FPI Recommendations

The climate transition remains an urgent project for the state. In order to meet its sustainability goals, the State will need to take an active role in directing policy and infrastructure investments. The CLCPA, enacted in 2019, has set forth bold targets along with a comprehensive overview of the different sectors of New York’s economy that will need large investments and undergo costly transitions. Despite high costs associated with undertaking the climate transition, the costs of not building a green economy far outweigh the costs of transition. The Scoping Plan for the CLCPA estimates the total cost of the meeting the CLCPA goals to be between \$10-14 billion annually over the next 25 years — a net present value of about \$300 billion — and the implied benefit of the plan is estimated to have a net present value of over \$400 billion. These costs are to be shared between the private sector and the public sector, with an expected cost to the public sector of between \$1.5 billion and \$3 billion annually from the present through 2050. Costs to the State could rise if the private sector fails to perform as expected. Even for a large and prosperous state like New York, these public costs are high and require significant State commitment. Without adequate public funding for the climate transition, New York could face calamitous environmental damage that will fall hardest on low-income and working-class New Yorkers.

Climate Policy as a State Fiscal Issue

If mismanaged, the State’s climate transition could also have deep consequences for employment and affordability in the state. Currently, the CLCPA has laid out an ambitious set of goals with no clear plan for how to pay for the programs needed to meet those goals. Without a concrete and transparent plan for who will bear the associated costs of the climate transition, New York risks laying the burden on New Yorkers who already face a deep affordability crisis.

The three mechanisms by which increased costs may be imposed on New Yorkers are (i) increased energy bills, (ii) increased taxes, and (iii) upheaval to labor markets. Under the current plan, funding for meeting the CLCPA goals will primarily come from costs imposed on energy producers, a significant share of which may be passed on to consumers in the form of increased energy costs. While these costs do not appear in the State budget, they are nonetheless a significant aspect of State fiscal policy.

At this time, the State does not have a robust and detailed plan to fund the CLCPA. Without such a plan, New York is liable to miss important emissions targets or to mismanage the burden of costs. A plan for accomplishing the goals of the CLCPA must include a detailed account of how the State will mitigate

financial risks for low- and middle-income New Yorkers – which may entail higher, more progressive taxes in order to offset effects on energy bills and labor markets.

FPI recommends the following near-term considerations for building a robust fiscal model for the climate transition:

Monitor critical design features of Cap-and-Invest

Currently, much of the State’s plan for a climate transition relies heavily on the success of the Cap-and-Invest program to both raise revenue and curb emissions. The program is currently under development and the Department of Environmental Conservation (DEC) and NYSERDA. Recently, NYSERDA reported that the Cap-and-Invest program is expected to bring in \$6-12 billion in revenue each year. This estimate is highly uncertain and dependent upon the successful implementation of Cap-and-Invest. Many features of the Cap-and-Invest program’s design are still under review, and the program is likely to evolve over the coming years. For Cap-and-Invest to be successful, the program must:

1. **Impose meaningfully low caps on emissions.** Cap-and-Invest programs in other states such as California have not been stringent enough to curtail emissions successfully.⁶¹⁶² Setting a low cap on emissions will create high prices for allowances such that they have the potential to curb the behavior of large emitters, as well as raise revenue for the state.
2. **Offer few options for large emitters to circumvent those caps.** Other Cap-and-Invest programs, such as that of California, have provided exemptions or other means to circumvent the program’s goals, such as the purchase of carbon offsets, to emitters who exceed emissions caps. These exemptions undermine the policy aim of curbing emissions both directly and indirectly by implicitly raising the cap.
3. **Set price ceilings high enough that emitters pay a high price.** The current proposal for Cap-and-Invest includes a price ceiling on auction prices. This ceiling will limit the prices paid by emitters and could weaken the policy’s ability to curb emissions and raise revenue if the price is not high enough.
4. **Establish effective compliance mechanisms.** Currently, there is no clear consequence to emitters for failing to comply with the emissions cap and their allotted allowances. Future proposals should include mechanisms to ensure compliance.
5. **Limit “allowance banking.”** The current proposal for Cap-and-Invest states that emitters can use a purchased allowance on any subsequent year’s emissions (except for those allowances bought in 2025 and 2026). That is, emitters can “bank” allowances for use in future years. This policy, if not carefully designed, could be used by emitters to hoard low-price allowances and thus circumvent strict emissions caps.
6. **Carefully design how resulting revenues are used.** If the auction prices for allowances are high (as they should be to achieve a meaningful policy change), there is a risk that the cost burden will be passed on from the emitters to ratepayers (the consumers of the energy). For this reason, the Cap-and-Invest program must include a detailed plan to measure the cost burden

and remit a substantial proportion of revenue back to low- and middle-income households, so that they do not have to shoulder the cost of the energy transition.

Raise revenue that does not depend on Cap-and-Invest

While the Cap-and-Invest program has merit as one of several tools the State uses to curb emissions and raise revenue, the State also needs to leverage additional funding mechanisms to invest in the climate transition. Rather than leaning entirely on a market-driven incentive mechanism, the State should directly invest in renewable fuel generation, finance heat-pump installation and weatherization for residential households, and enhance the public transportation landscape. Each of these arenas involves up-front costs and investments that will render long term benefits to the State and to households.

Without early investment, costs will increase, and the burden of the costs will fall on low- and middle-income New Yorkers. For a more progressive solution, New York should consider funding models that directly raise revenue from high earner households and profitable businesses. New York can also expand bond financing of climate transition costs, as these investments will ultimately yield a stronger and more stable state economy, meriting long-term borrowing schemes that spread the cost out over a longer time horizon. While the Cap-and-Invest program may yield significant revenue, it is also important for the State to raise revenue that does not depend on the success of Cap-and-Invest and that increases the State's capacity for direct investment in the climate transition.

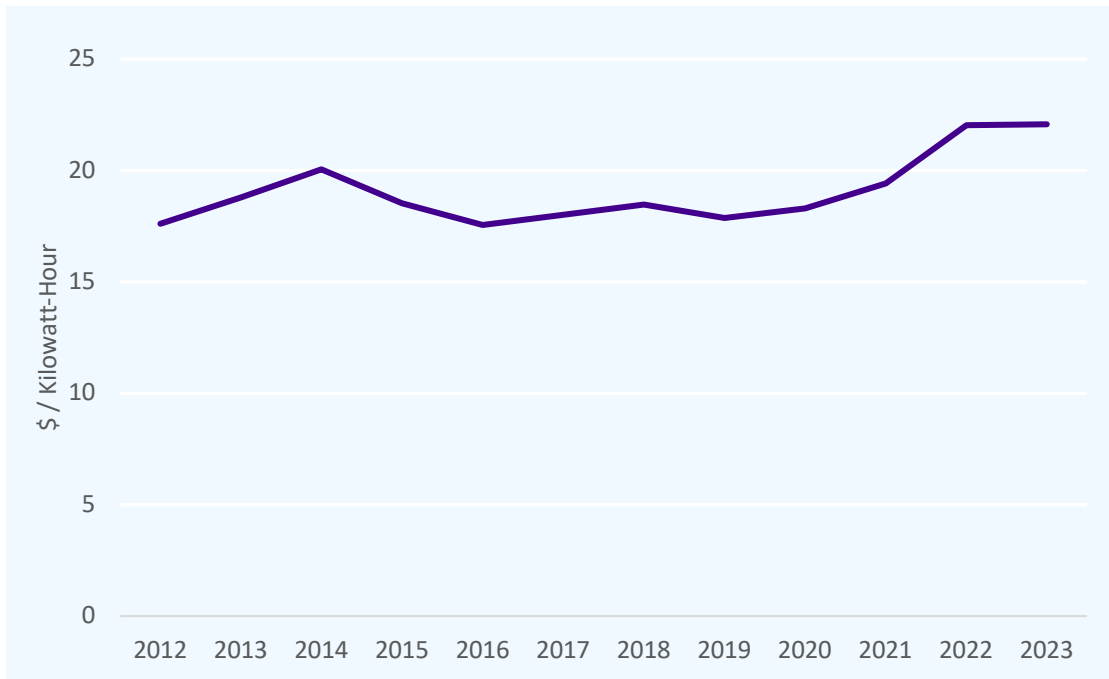
Leverage federal funding for climate projects

The federal Inflation Reduction Act (IRA) creates many funding opportunities for states to invest in the climate transition.⁶³ Around 75 percent of IRA funding – about \$270 billion – is allocated to tax credits.⁶⁴ An innovative dimension of tax credits in the IRA, however, is that they are available to entities that do not pay taxes including state and local governments and non-profits. Many of the tax credits in the IRA defray the costs of specific climate transition needs, such the Home Efficiency Rebates program, which provides \$4.3 billion in grants to states for the purpose of assisting homeowners and aggregators in retrofitting homes to be more energy efficient. The Neighborhood Access and Equity Program provides \$3.2 billion to states for affordable public transportation and improvements in walkability. Many other grant programs exist alongside numerous tax incentives to provide states with ample opportunity for the State and localities to lower climate transition costs.

Adopt the affordability component of the NY HEAT Act

According to the US Census, about 20-30 percent of New Yorkers report that they are unable to pay their energy bills.⁶⁵ Energy prices in New York have risen from less than \$18 per Kilowatt-hour in 2019 to over \$22 per Kilowatt-hour in 2023 – a 22 percent increase. The New York HEAT Act includes a provision that would limit household spending on energy to 6 percent of total income. Currently, the executive proposals do not include this provision. Including such a provision would help make sure that the cost of the energy transition does not put undue burden on private households.

Figure 10.4. Average residential energy prices in NY



Note: Data from the US Department of Energy, as reported by NYSERDA. <https://www.nyserda.ny.gov/Energy-Prices/Electricity/Monthly-Avg-Electricity-Residential>