



FACT SHEET

# CLEAN ELECTRICITY GEORGIA: HOW FEDERAL POLICY CAN DELIVER CLEAN ELECTRICITY AND CLEAN AIR FOR GEORGIA

Georgia is on the road to a cleaner electricity system, one that will create new economic opportunities, increase in-state generation, and lower power-related carbon dioxide emissions. Strong carbon pollution standards from the Environmental Protection Agency (EPA) are now needed to ensure that Georgia's future electricity system also cuts pollution and protects people's health.

NRDC modeling predicts that, with the Inflation Reduction Act (IRA) and proposed EPA rules, by 2040 Georgia could see:

- Renewable energy providing 70 percent of Georgia's power, with 95 percent of the state's power coming from zero-carbon resources
- Carbon emissions from electricity falling almost to zero
- Reduced smog and particulate pollution, preventing up to 600 premature deaths a year

Clean energy is poised to take off in Georgia.

With the nuclear reactors at Vogtle nuclear power plant finally coming online, Georgia has a clear pathway to comply with federal standards and decarbonize its power grid. NRDC modeling shows that with those reactors, plus the IRA and federal standards, the state's lowest-cost pathway is to move almost entirely away from fossil fuels by 2040.

The state's solar energy is expected to grow more than fourfold, from 3.6 gigawatts today to 14.5 gigawatts of power capacity in 2030.<sup>1</sup> Solar is projected to continue to prosper in the state throughout the 2030s, growing to more than 39.9 gigawatts by 2040 to become the state's main source of electricity.

This new, cost-effective clean energy will replace old, expensive, and dirty coal plants, as well as oil and gas plants, while driving more than \$23 billion of new renewable investments to the state over the next 15 years, according to NRDC analysis.<sup>2</sup> In fact, by 2040, the total capacity of

renewable energy in Georgia is projected to exceed what coal and gas capacity is today. That same year, renewables are also projected to provide more electricity than gas in the state, accounting for more than 70 percent of the state's electricity grid (Figure 1), compared to about 8 percent today. This large influx of capital for new clean energy projects will further boost Georgia's clean energy workforce: as of 2022, clean energy already employs 78,400 people in Georgia, or nearly nine times the number of workers as the state's fossil fuel industry.<sup>3</sup>

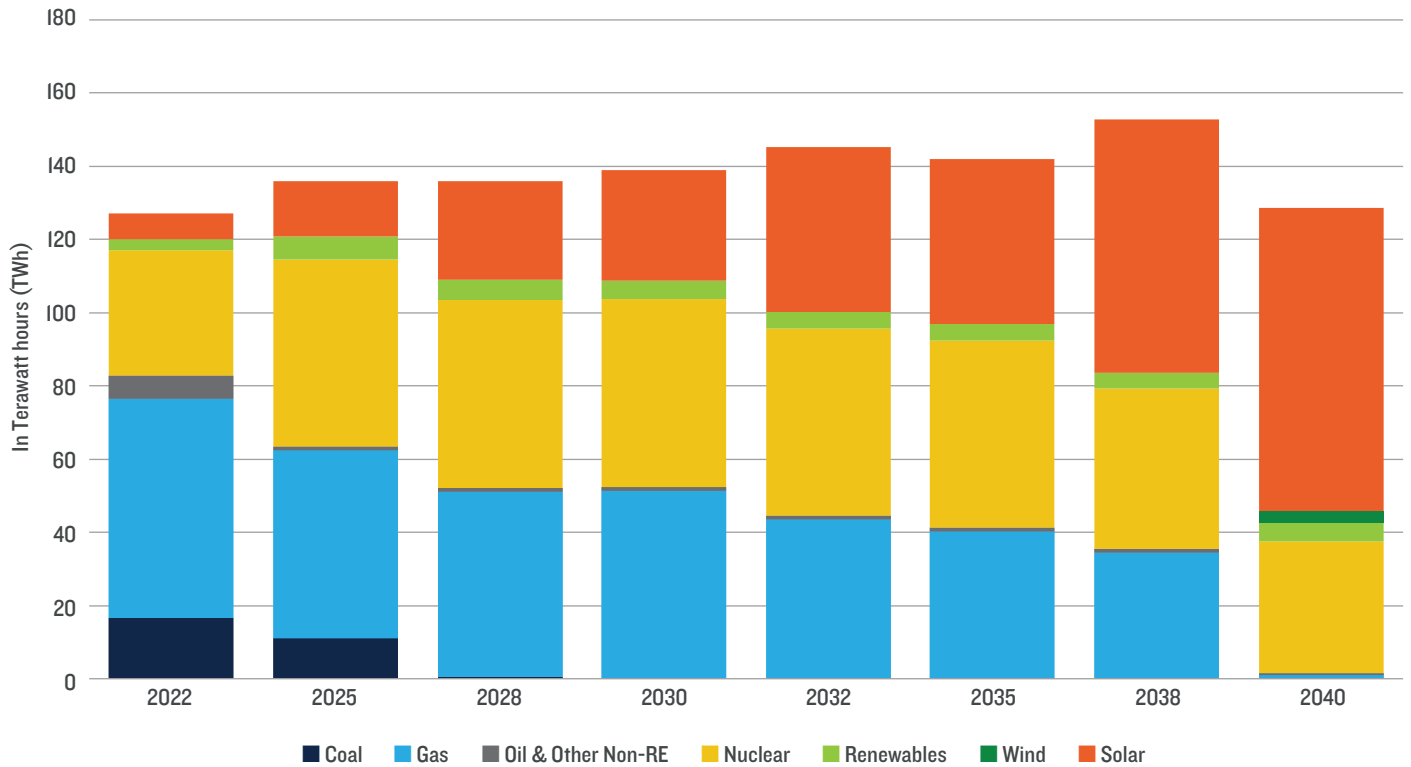
Georgia also has a huge clean energy manufacturing opportunity thanks to the IRA. Since the law was passed in August 2022, there have been 26 new manufacturing project announcements in the state, which will bring an estimated \$14.7 billion in private investment. These announced projects are expected to employ almost 15,000 people.

Bolstered by new federal investments in clean energy under the IRA and supported by strong carbon pollution standards from the EPA, Georgia is poised to see a monumental change in clean electricity and clean air, which will protect health and save lives.

This transition to clean energy would have been unthinkable just a few years ago. Now, this change is underway thanks to three main drivers.

**First, the economics of solar, wind, and battery technology have upended the electricity industry across the United States.** The cost of new wind turbines has fallen by nearly 63 percent since 2009 and solar panels

**Figure 1: Projected In-State Generation in Georgia With the IRA and EPA Standards**



Notes: Oil & Other Non-RE (nonrenewable energy) includes oil/gas steam, biomass, and other waste fuels. Other RE refers to geothermal and landfill gas.

by a whopping 83 percent.<sup>4</sup> Installing new renewable energy is already typically cheaper than building a gas plant, which is why solar, wind, and batteries are set to account for 94 percent of the new power capacity installed across the country this year.<sup>5</sup>

**Second, the IRA, which President Biden signed into law in August 2022, is providing extraordinary federal investment in clean energy.** This historic climate law includes unprecedented incentives for wind, solar, battery storage, and other low-carbon energy sources, in addition to tax credits for electric vehicle manufacturing and purchase. This measure will accelerate the trends already underway, putting the nation—and Georgia—on track for the fastest and most sustained build-out of renewable energy in the country’s history. Figure 2 shows all of Georgia’s clean energy projects currently in development that will benefit from the law’s clean energy tax credits.

**Third, and finally, the EPA is now in the process of setting new standards that will ensure utilities and states cut their carbon pollution from power plants.** In May 2023, the EPA proposed carbon emissions limits on coal and gas plants based on efficient and reduced operations, the capabilities of carbon capture and sequestration, and clean hydrogen. Once finalized, the standards will set the emissions level that power plants must meet but will give companies

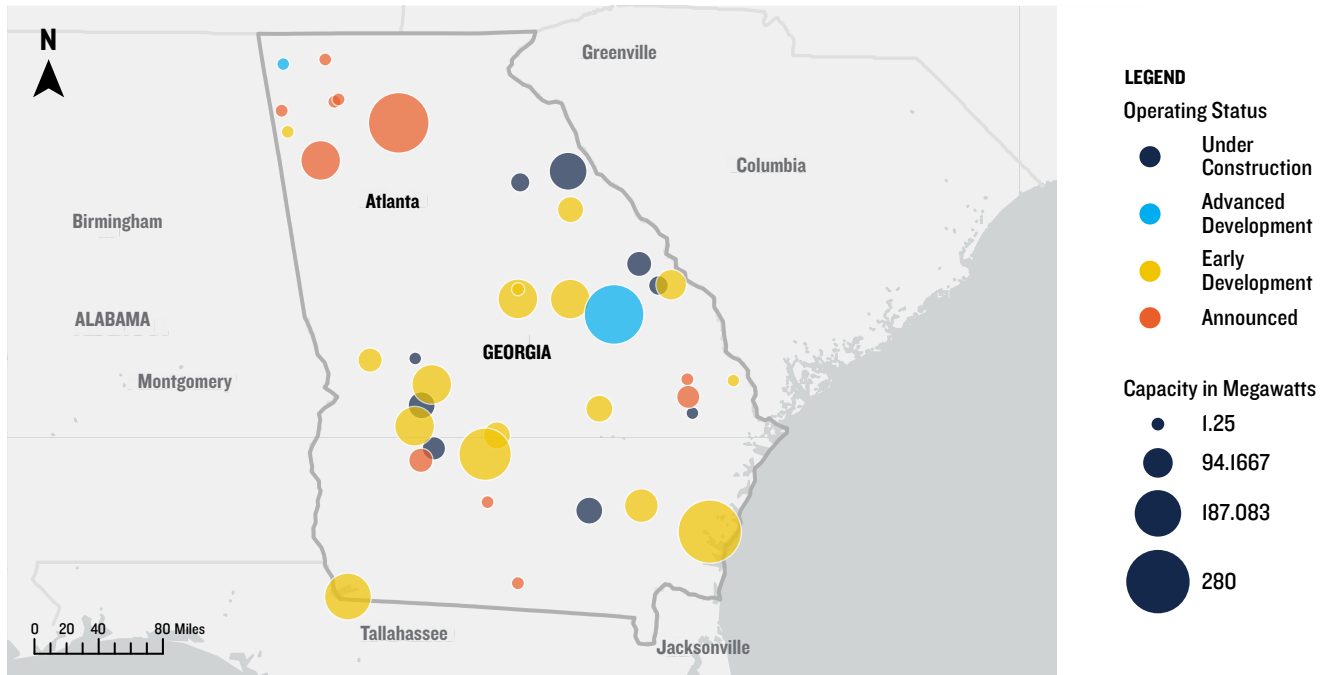
and states broad flexibility to adopt strategies that achieve those results. Given the changes underway in its electricity sector, Georgia is in a strong position to comply with these standards and garner additional climate, economic, and public health benefits.

NRDC modeling projects that industry trends and the IRA will deliver a 67 percent reduction in power sector carbon emissions nationwide (relative to 2005 levels) by 2030; with the right EPA rules in place, emissions could be cut further, to a 73 percent reduction.



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Figure 2: Clean Energy Projects in Georgia



Source: S&P Global Power Plant Units

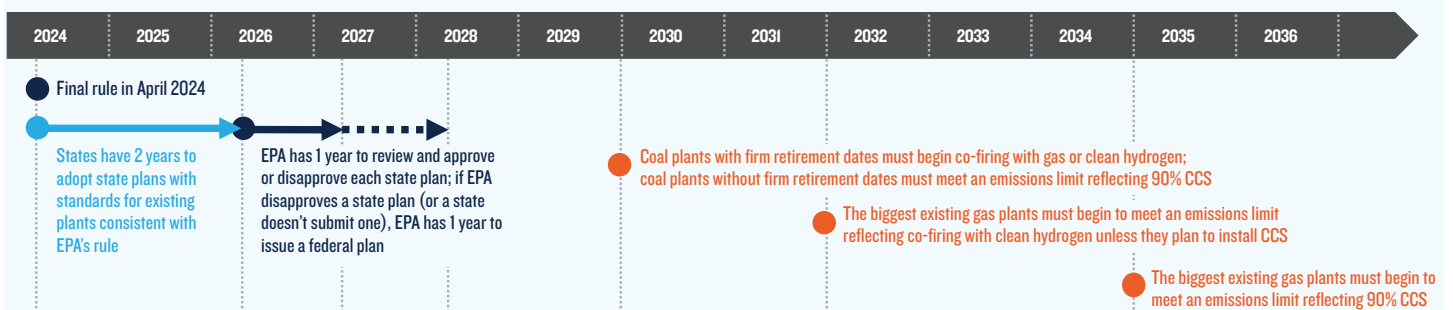
## HOW THE EPA STANDARDS WILL WORK IN GEORGIA

In May 2023, the EPA proposed national carbon reduction standards for fossil fuel power plants. The standards would cover existing coal plants and new and existing gas plants (new coal plants are already covered by earlier standards). The standards are legally sound: the EPA is following the Supreme Court’s decision in *West Virginia v. EPA* by proposing standards that will “cause regulated sources to operate more cleanly” and will “improve the pollution performance of individual sources.”<sup>6</sup>

Under the Clean Air Act, the EPA sets the emissions performance levels that sources must meet based on the “best system of emission reduction.” The EPA’s proposed emissions limits are based on the capabilities of efficient generation, carbon capture and sequestration, and clean hydrogen technologies. Depending on the type of plant, including the size and how often it runs, plants have different dates and rules for compliance. In most cases, the emissions standards start to kick in by 2032, and all are fully in place by 2040. States and plant owners have broad flexibility to adopt any strategies that achieve the required emissions reductions.<sup>7</sup>

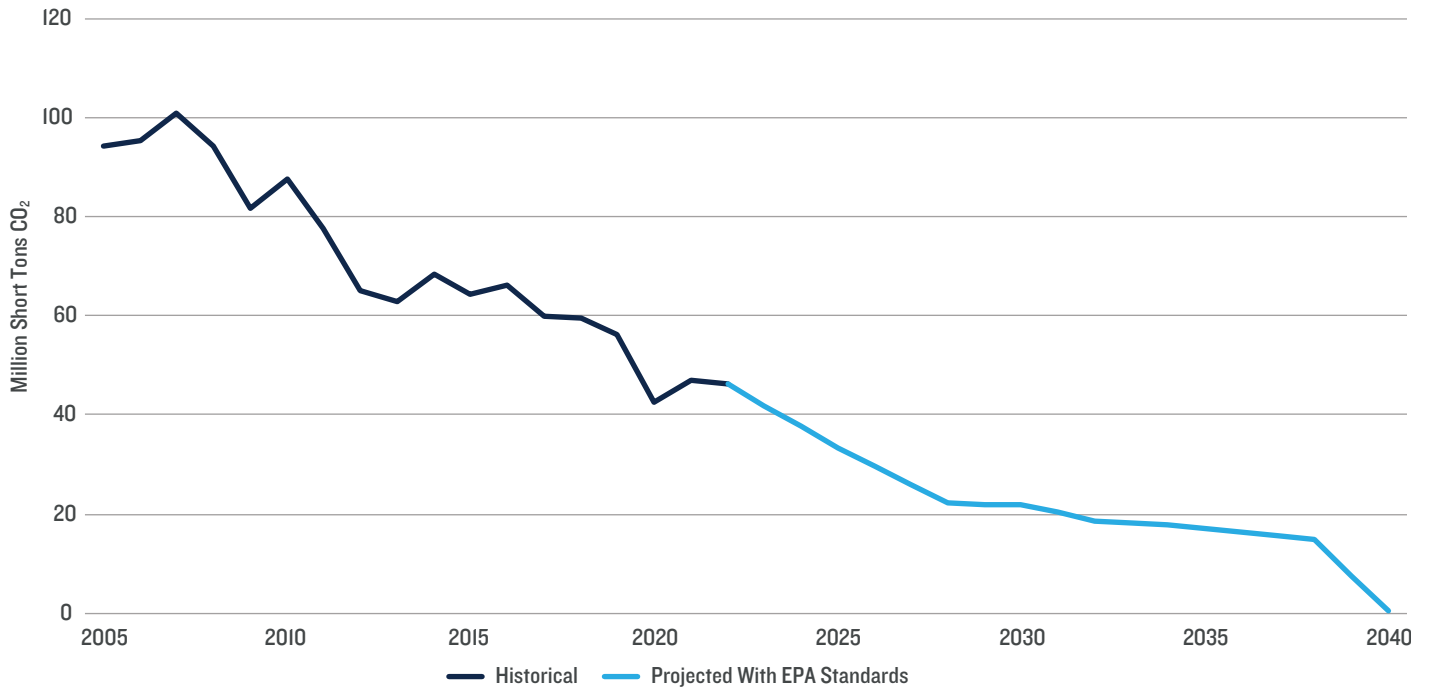
The EPA is planning to finalize these standards by April 2024, and that will start the next process for states to develop plans to achieve the emissions reductions the agency has laid out. Under the proposed rules, states will have two more years to develop their plans, and then the EPA has a year to consider, review, and approve or reject each plan (Figure 3).

Figure 3: Expected Timeline for State Planning and Compliance with EPA Carbon Rules



While EPA’s standards are based on the emissions reductions possible through/using specific technologies, states and companies have wide leeway to use whatever means can achieve that same level of pollution reduction

Figure 4: Georgia's Power Sector CO<sub>2</sub> Emissions



### THE IRA AND EPA STANDARDS WILL REDUCE CARBON POLLUTION IN GEORGIA

The retirement of coal plants and growth in new renewable energy will lead to cleaner air, dramatically less carbon emissions, and better health for the people of Georgia. The combined impacts of the IRA, EPA carbon pollution standards, and state compliance actions are expected to be dramatic:

- The state has already cut carbon emissions from the power sector by more than 50 percent since 2005. According to NRDC modeling, by 2030, carbon emissions from electricity are projected to be 77 percent below 2005 levels. These cuts in climate pollution continue with carbon emissions falling almost to zero by 2040 (Figure 4).
- In total, the IRA climate law and new EPA standards are projected to cut in-state power sector carbon pollution by a total of 518 million tons by 2040 compared to today's levels, or roughly four times more than the state's economy-wide carbon footprint today.<sup>8</sup> Remarkably, under this scenario, Georgia will eliminate carbon pollution from the electricity sector by 2040.

### THE IRA AND EPA POLLUTION STANDARDS WILL IMPROVE HEALTH FOR ALL GEORGIANS

The transition to cleaner energy will also save lives, prevent illness, and reduce health spending across the state. Nitrogen oxide and sulfur dioxide are two major health-harming

pollutants produced by fossil power plants; they contribute to local smog, particulate pollution, and ground-level ozone, which can lead to serious respiratory illness, asthma, stroke, lung cancer, and death. These pollutants also contribute to acid rain that damages ecosystems, agricultural lands, buildings, and wildlife by acidifying surface water and soil.

The retirement of coal plants will result in the full elimination of sulfur dioxide emissions from the state's power fleet by 2030. Nitrogen oxide emissions will be cut by 86 percent from current levels in the same time frame.

These reductions in health-harming pollution result in significant economic and public health benefits. In fact, it is estimated that the reduction in pollution from Georgia power plants could prevent more than 600 premature deaths in the state *annually* by 2040.<sup>9</sup>

### CONCLUSION

Georgia is at the start of a clean energy boom. The closure of old, dirty fossil fuel plants and construction of new wind, solar, and energy storage projects is now set to usher in an age of energy abundance and economic growth for the state. Strong EPA standards on power plants will help ensure Georgia—and the entire nation—can benefit as we address the climate crisis and cut air pollution.

## Endnotes

- 1 Analysis was completed using the Integrated Planning Model (IPM). This is the same model used by the U.S. EPA for its own analysis of the proposed carbon pollution standards for power plants. More details on our analysis of the IRA and power plant standards can be found in NRDC and Clean Air Task Force, *New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, August 8, 2023 (comments to the EPA, docket no. EPA-HQ-OAR-2023-0072), <https://www.nrdc.org/sites/default/files/2023-08/comments-epa-power-plant-rule-nrdc-caf-20230808.pdf>.
- 2 Investment numbers represent levelized costs of new investments.
- 3 E2, “Clean Jobs Georgia 2023,” November 27, 2023, <https://e2.org/reports/clean-jobs-georgia-2023/>.
- 4 Lazard, *Levelized Cost of Energy+*, April 12, 2023, <https://www.lazard.com/research-insights/2023-levelized-cost-of-energyplus/>.
- 5 U.S. Energy Information Administration (EIA), “Solar and battery storage to make up 81% of new U.S. electric-generating capacity in 2024,” *Today in Energy*, February 15, 2024, <https://www.eia.gov/todayinenergy/detail.php?id=61424>.
- 6 U.S. EPA, *New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, 88 Fed. Reg. 33,240, 33,269–33,270 (May 23, 2023), <https://www.govinfo.gov/content/pkg/FR-2023-05-23/pdf/2023-10141.pdf> (quoting West Virginia, 142 S.Ct. at 2610, 2614).
- 7 *Ibid.*, 33,243.
- 8 U.S. EIA, “Energy-Related CO2 Emission Data Tables,” July 12, 2023, <https://www.eia.gov/environment/emissions/state/>.
- 9 Calculated using EPA’s benefit-per-ton values. U.S. EPA, “Estimating the Benefit per Ton of Reducing Directly-Emitted PM2.5, PM2.5 Precursors and Ozone Precursors From 21 Sectors,” Benefits Mapping and Analysis Program, January 17, 2023, <https://www.epa.gov/benmap/estimating-benefit-ton-reducing-directly-emitted-pm25-pm25-precursors-and-ozone-precursors>.