

Greenhouse Gas Reduction Goal Roadmap

Our Current Goal

Kroger’s current [Greenhouse Gas \(GHG\) Reduction Goal](#) is to [reduce absolute Scope 1 and 2 GHG emissions](#) from our operations by 30% by 2030 against a 2018 baseline. The goal was developed using climate science, supporting a well-below-2°C climate scenario according to the absolute contraction method.

This document describes Kroger’s approach to achieving this goal, including the types of projects we expect will achieve emissions reductions, as well as our process for managing and tracking progress toward our goal.

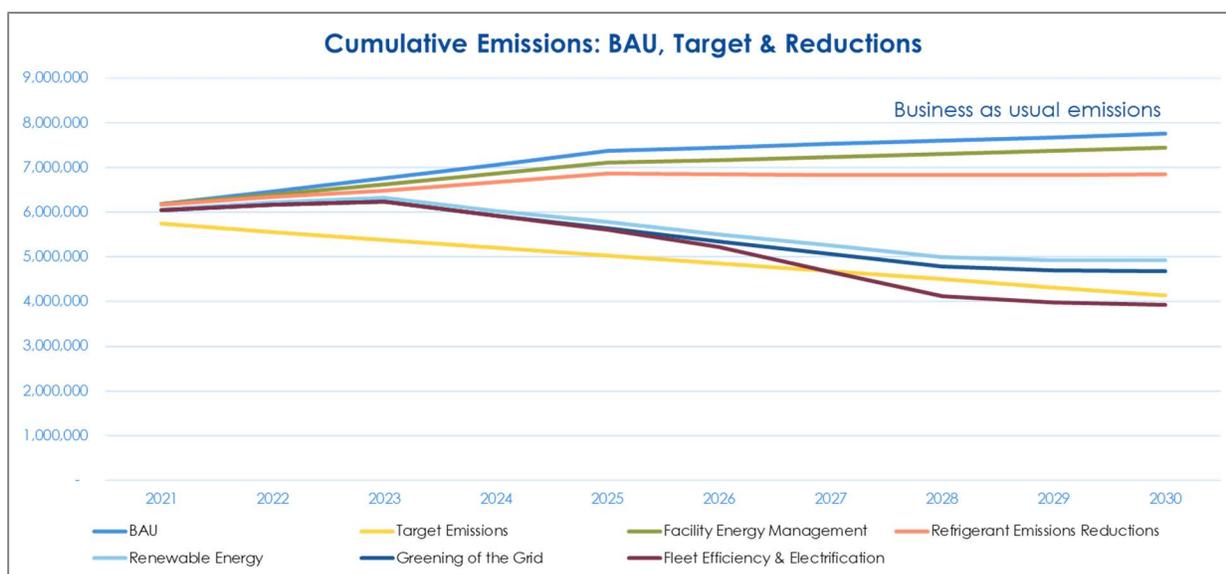
In light of the 2022 Intergovernmental Panel on Climate Change Report and updated guidance for companies addressing climate impacts, we are in the process of resetting Kroger’s near-term GHG reduction target to align with Science-Based Targets initiative (SBTi) requirements and a 1.5°C climate scenario. This will include revising our Scope 1 and 2 emissions reduction goal and setting new Scope 3 and Forests, Land and Agriculture (FLAG) emissions reduction goals for our value chain.

In light of these guidelines—as well as evolving regulatory requirements and a changing business operating environment—the company anticipates continual adjustments to our goal roadmap in the future.

Overview: 2030 Goal Roadmap

While advancing the work noted above to develop SBTi-aligned goals this year, an internal cross-functional Climate Impact Working Group also continues to develop and refine the portfolio of projects needed to achieve our current 2030 goal.

The chart below provides a visual overview of estimated emissions growth before reductions, anticipated target emissions reductions by 2030, and projections for how different project types may contribute to reductions over time, based on projects and investments currently in the roadmap portfolio.



Goal Performance to Date

Below is a summary of Kroger’s emissions performance for the past four years, starting with our goal baseline year of 2018. We will calculate our 2022 inventory in the first half of 2023 as fiscal year 2022 consumption data becomes available. Kroger uses an Inventory Management Plan (IMP) to guide the annual calculation of our inventory, which informs goal progress calculations.

We report detailed GHG emissions and energy consumption data in our [annual Environmental, Social & Governance \(ESG\) Report](#), CDP Climate disclosure and other related outlets.

Table: Summary of GHG Emissions by Year

Emissions Type	Emissions Data by Year				2021 vs. 2020	2021 vs. Baseline
	2018	2019	2020	2021		
Scope 1	2,313,574	2,445,526	2,072,129	2,303,388	+11.2%	-0.4%
Scope 2 - <i>market-based</i>	3,460,486	3,522,338	3,203,716	2,948,060	-8%	-14.8%
Scope 2 - <i>location-based</i>	3,603,853	3,304,231	3,018,225	2,747,205	-9%	-23.8%
Total Scope 1 & 2 - <i>market-based</i>	5,774,060	5,967,865	5,275,845	5,251,448	-0.5%	-9.1%
Scope 3 - <i>partial</i>	2,290,056	2,175,346	1,501,947	2,398,328	+14.5%	+4.7%

Summary of Emission Types

Scope 1 Emissions

Scope 1 emissions include those generated by: 1) stationary fuel combustion, 2) mobile fuel combustion, and/or 3) fugitive emissions from refrigerants.

- **Stationary fuel combustion:** We use natural gas in many of our facilities for heating, as well as kerosene, gasoline and other fuels in generators.
- **Mobile fuel combustion:** Our Kroger-owned and -operated logistics fleet moves products among Kroger warehouses, plants and stores; our last-mile trucks deliver products from our fulfillment centers to our customers’ homes; and the forklifts and other on-campus vehicles use diesel, gas and/or electricity to operate.
- **Fugitive emissions:** Our stores, manufacturing plants and distribution centers use refrigerants in equipment. Our fleet also uses refrigeration systems in vehicles that transport goods requiring cold chain storage. Refrigerant emissions enter the atmosphere when they leak from equipment. Each refrigerant has a global warming potential (GWP) that indicates how much it contributes to climate change.

Scope 2 Emissions

Scope 2 emissions are indirect emissions generated through the consumption of purchased electricity, heat and steam. Kroger’s Scope 2 emissions are the result of consuming electricity in our stores, manufacturing plants, distribution centers, fulfillment centers and spokes, offices, and other owned or operated supporting facilities. While Kroger calculates both location-based and market-based Scope 2 emissions, our 2030 greenhouse gas reduction target is tracked using market-based Scope 2 emissions.

Scope 3 Emissions

Scope 3 emissions encompass all greenhouse gas emissions from upstream and downstream activities. Presently, Kroger reports on a small number of the 15 Scope 3 categories in our annual GHG inventory, however our current GHG reduction goal does not encompass these upstream and downstream emissions. Our new SBTi-aligned goal will include Scope 3 emissions.

Management Approach

The Public Responsibilities Committee of Kroger's board of directors reviews and guides the company's actions pertaining to responsible corporate citizenship and environmental sustainability, including the topic of climate impact. Kroger's Executive Leadership Team oversees work to evaluate and approve initiatives that help achieve our GHG reduction goal.

Kroger's Climate Impact Working Group identifies, implements and tracks projects across lines of business and relevant teams, including Retail Operations, Supply Chain (including Manufacturing and Logistics), Energy Procurement and Real Estate. Additional functions like Enterprise Sourcing, Finance and Business Development enable progress toward our goal, as do external functions and entities like suppliers, industry groups, NGOs and consultants.

Future Emissions Assumptions

To determine the amount and types of emissions reductions required to achieve Kroger's current GHG reduction goal, we made assumptions about how emissions will change between the base and target years before accounting for potential reductions.

- **Assumption #1:** We assumed that collectively, emissions will grow by 1% to reflect organic business growth. We don't consider sales growth and energy consumption to be directly correlated, so this assumption reflects a steady increase in emissions due to adding new facilities and fleet vehicles to the road in future years.
- **Assumption #2:** We estimated a significant increase in Scope 1 emissions due to Kroger's ongoing purchases of Delivery vehicles to serve customers from our delivery fulfillment centers in a growing number of geographies. The total number of trucks to be added in the goal timeframe is dependent on the number of fulfillment centers that are built between now and 2030.

We will revisit and refine these assumptions as part of resetting our current goal to align with SBTi requirements.

Summary of Anticipated Reductions

Below, we summarize the anticipated GHG emissions reductions by type. The graphic on the next page shows the approximate allocation of these types as a percentage of total reductions needed:

Facility Energy Management: Kroger uses energy efficiency measures like LED retrofits and covering open cases with glass doors to reduce the amount of energy used in our facilities. Energy monitoring is also used at select facilities to quickly identify anomalies in energy consumption trends.

Renewable Energy: Currently, Kroger produces renewable power via solar installations on 15 facilities (we maintain the renewable energy credits (RECs) at some but not all these facilities). In some markets, we procure renewable power through utility contracts. At two facilities, we produce renewable biogas through anaerobic digestion, which can be combined with natural gas to generate electricity for the Kroger facility.

Kroger recognizes that procuring more renewable energy is a leading way for our company to reduce Scope 2 emissions. We expect to use multiple mechanisms for adopting more renewable and/or low-carbon energy, such as:

- Purchasing green power directly from our utility providers
- Expanding on-site solar development at Kroger facilities
- Investing in and/or purchasing RECs from off-site solar development projects

Fleet efficiency & electrification: Kroger uses multiple pathways to reduce emissions from our owned/operated fleet.

- As we add more last-mile vans to our fleet to serve customers through Kroger’s expanding Delivery business, we will increasingly move from fossil-fuel based vehicles to electric vehicles (EVs). We will also add EV tractors to our fleet.
- Kroger is continuously upgrading our existing fossil fuel-based fleet to use newer, more efficient trucks. We use on-road tools like limiting truck miles-per-hour and routing technology to further increase truck efficiency during operation.

Refrigerant emissions reductions: Our stores in particular use leading leak detection processes and technology to reduce emissions from refrigeration.

- Kroger has a long history of reducing refrigerant leaks in our stores. We use a zero-tolerance policy for leaks so that our technicians quickly address any leaks. We are also adding more sensitive leak detection technology to identify leaks more efficiently.
- To further reduce the climate impacts of refrigerant that may still escape a managed system, we will continue to transition to lower-GWP refrigerant types. Many of our manufacturing plants and distribution centers have transitioned to lower GWP refrigerants like ammonia. Our stores are also implementing a transition to lower-GWP refrigerants, including building select new retail stores that are testing the use of carbon dioxide (CO₂) refrigerant technology.

Greening of the grid: Capturing emissions reductions from the ‘passive’ consumption of renewable energy from electricity grids being converted to renewable power by utilities.

Graphic: Summary of Type of Emissions Reductions Needed to Achieve 2030 Goal

