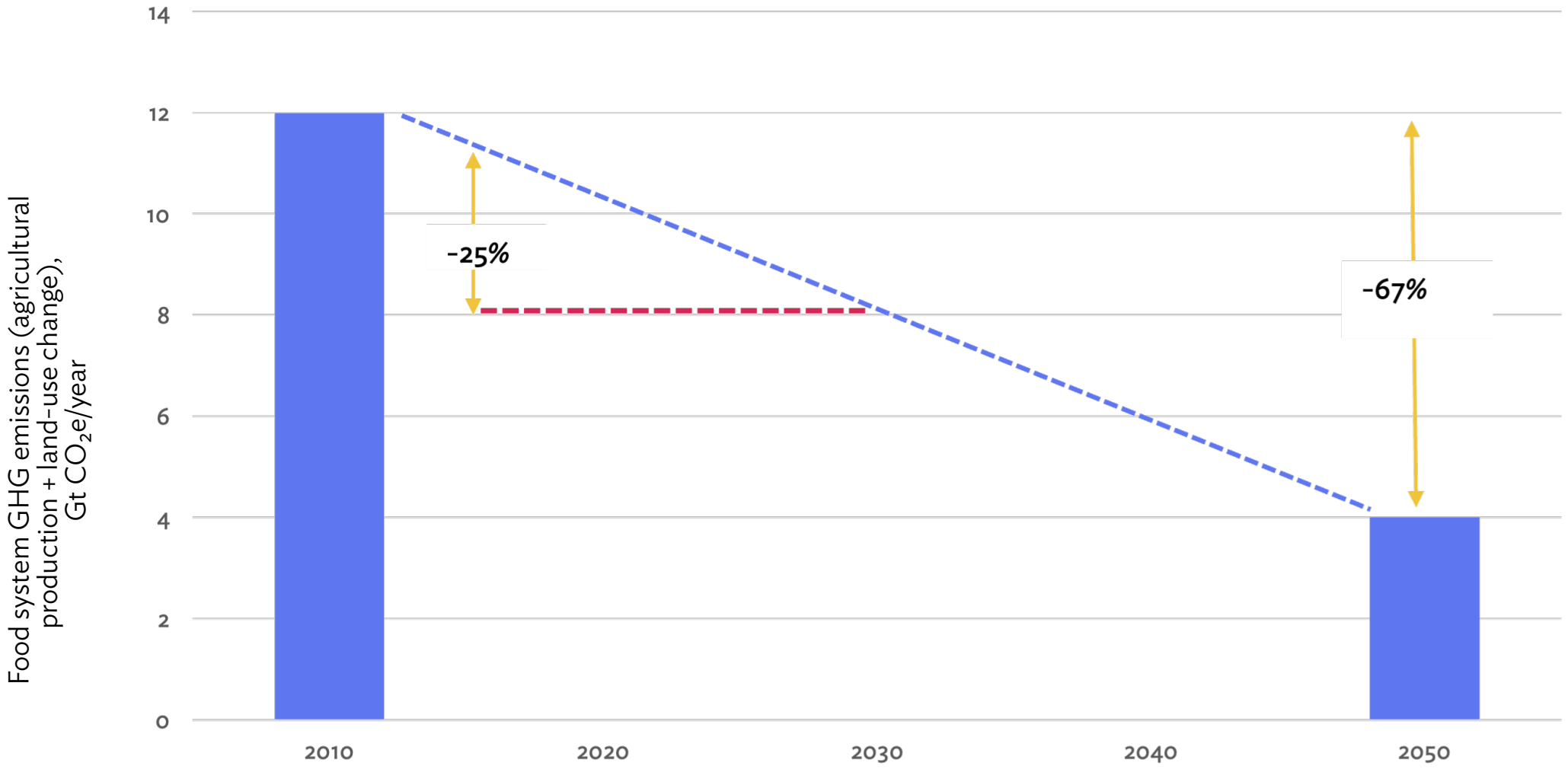
°coolfood
FOR DELICIOUS CLIMATE ACTION

2023 Climate Impact Report: City of New York - Citywide

September 2024

Collective target: reduce food-related emissions by 25% by 2030



Sources: Searchinger et al. (2019), Science Based Targets Initiative (2019).

Methods and data

GHG calculator uses emission factors from two global databases (Poore and Nemecek, Science, 2018; Searchinger et al., Nature, 2018) to estimate GHG emissions associated with production of food purchased.

RESEARCH

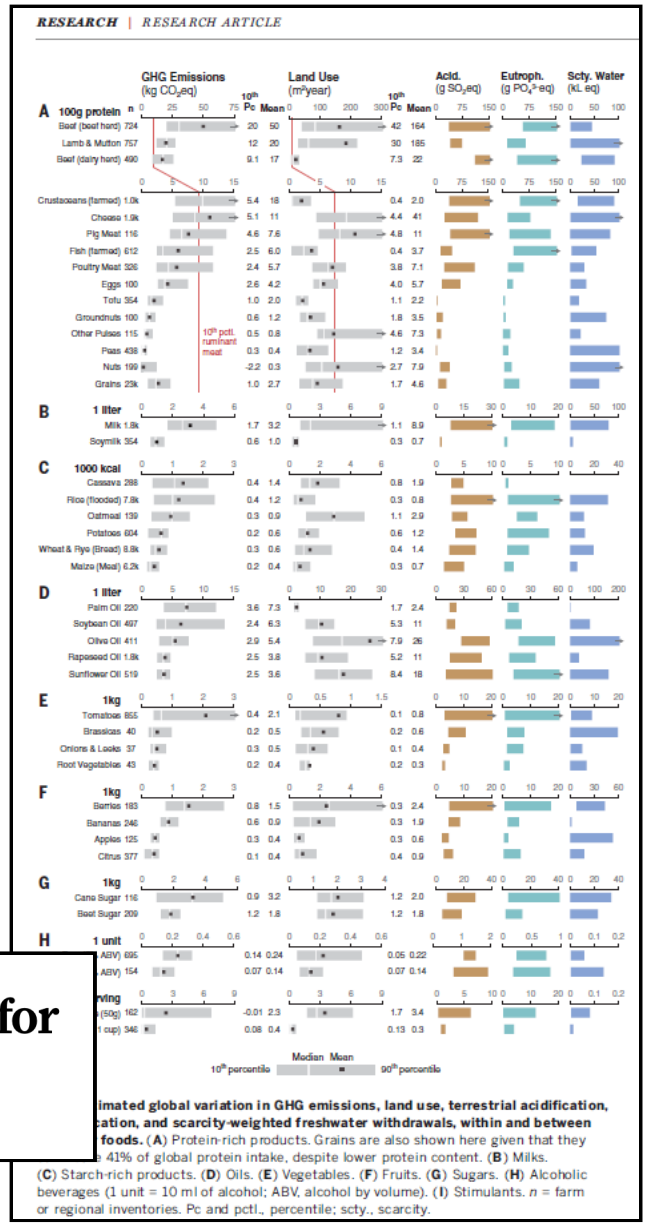
SUSTAINABILITY

Reducing food's environmental impacts through producers and consumers

J. Poore[1,2]* and T. Nemecek[3]

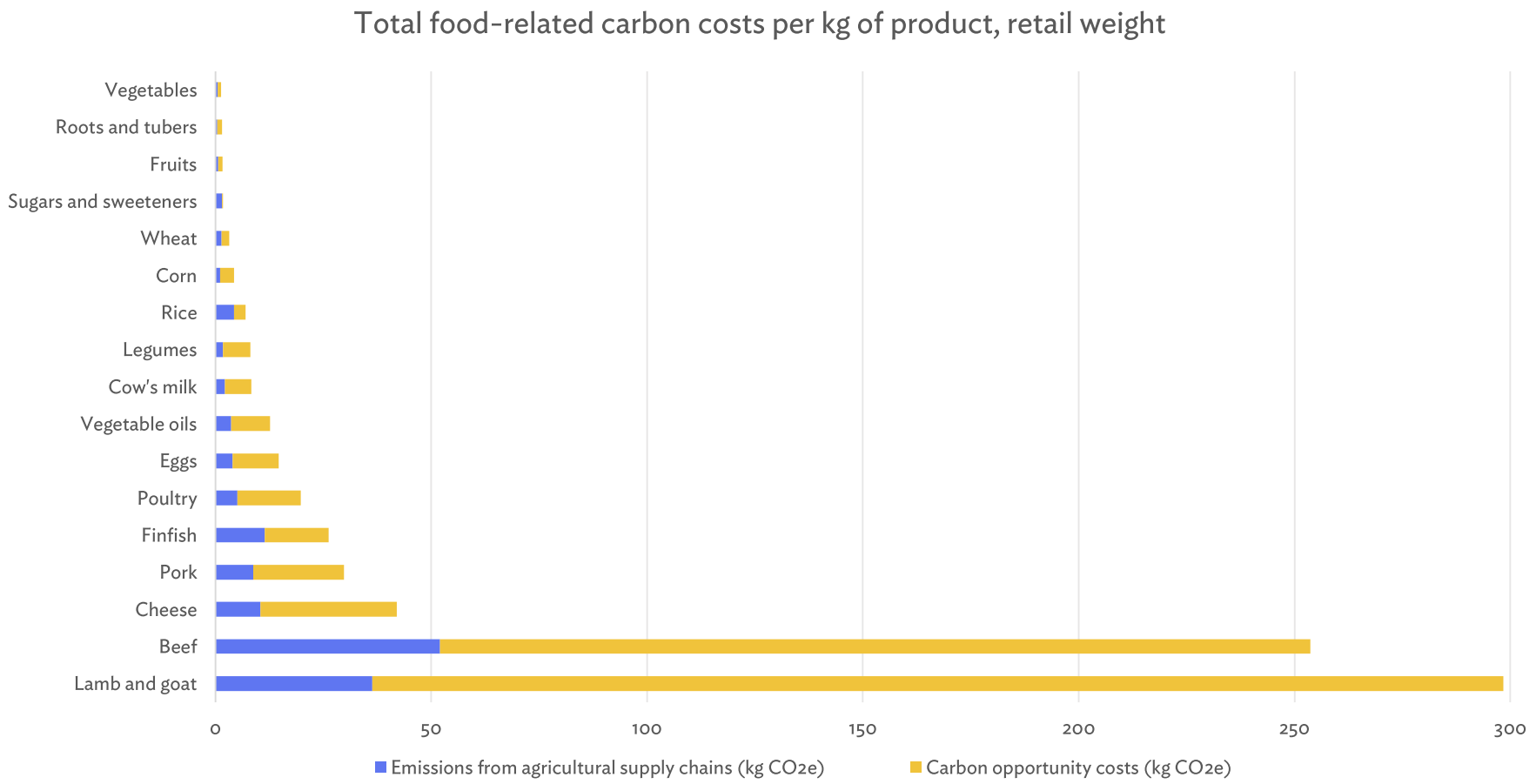
Assessing the efficiency of changes in land use for mitigating climate change

Timothy D. Searchinger[1,2]*, Stefan Wirsenius[3], Tim Beringer[4] & Patrice Dumas[5,6]



imated global variation in GHG emissions, land use, terrestrial acidification, cation, and scarcity-weighted freshwater withdrawals, within and between foods. (**A**) Protein-rich products. Grains are also shown here given that they 41% of global protein intake, despite lower protein content. (**B**) Milks. (**C**) Starch-rich products. (**D**) Oils. (**E**) Vegetables. (**F**) Fruits. (**G**) Sugars. (**H**) Alcoholic beverages (1 unit = 10 ml of alcohol; ABV, alcohol by volume). (**I**) Stimulants. *n* = farm or regional inventories. Pc and pctl., percentile; scty., scarcity.

Methods and data



Note: Global average factors shown here.
Sources: Poore and Nemecek (2018); Searchinger et al. (2018).

What's included in the annual emissions estimates?

GHG emissions from agricultural supply chains: This includes emissions from production of food and animal feed (enteric fermentation, manure management, soil fertilization, rice methane, energy use on farms and for manufacturing inputs), transport of food and animal feed, food processing, food packaging, and losses during these supply chain stages (cradle to point of purchase).

Data source: Poore and Nemecek (2018).

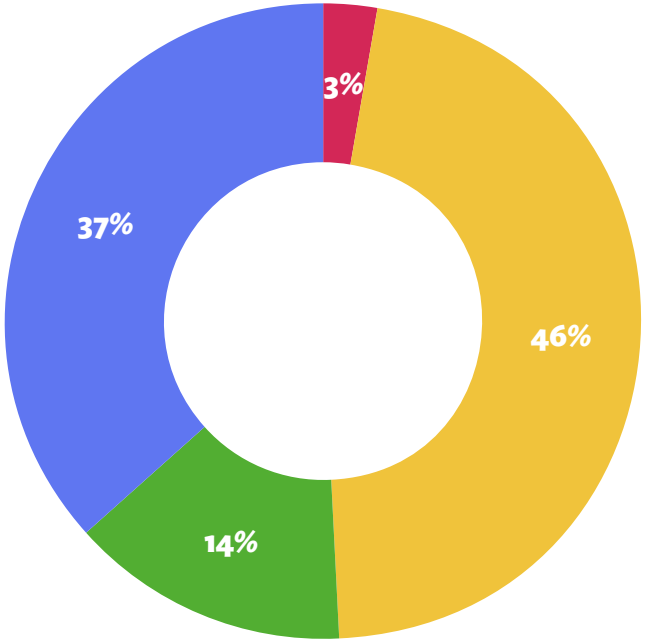
Carbon opportunity costs of agricultural land use: This includes total historical carbon losses from plants and soils on lands used to produce the sourced food. Because carbon losses from clearing native ecosystems to expand food production occur quickly, but food production on a cleared plot of land can continue well into the future, this metric is annualized over a period of 33 years.

Data source: Searchinger et al. (2018).

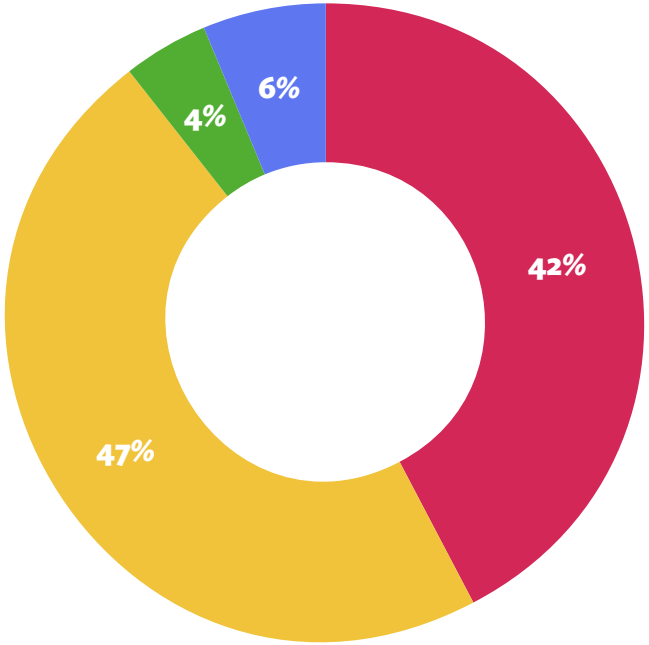
City of New York - Citywide: total food-related GHG emissions (2019 baseline)

Ruminant meats	3%
Dairy	39%
Poultry	6%
Seafood	1%
Eggs	0%
Pork	0%
Animal-based foods (misc.)	0%
Grains	11%
Legumes/nuts/seeds	3%
Plant-based milk subs.	1%
Fruits & vegetables	26%
Roots/tubers	6%
Vegetable oils	4%
Alcohol, stimulants, spices	0%
Added sugars	0%

Food purchases 98,568,629 kg (2019)



Total food-related GHG emissions (carbon costs) 1,549,693 tonnes CO_2e (2019)



Ruminant meats	42%
Dairy	38%
Poultry	7%
Seafood	1%
Pork	0%
Eggs	0%
Animal-based foods (misc.)	0%
Grains	2%
Legumes/nuts/seeds	2%
Plant-based milk subs.	0%
Vegetable oils	3%
Fruits & vegetables	2%
Roots/tubers	1%
Alcohol, stimulants, spices	0%
Added sugars	0%

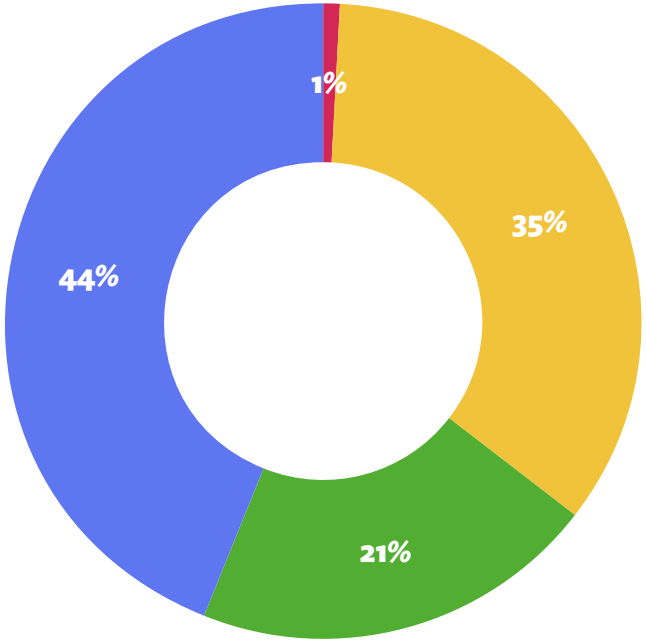
Beef and lamb | Other animal-based foods | Plant proteins | Other plant-based foods

Sources: Purchase data provided by member. Emission factors from Poore and Nemecek (2018) (agricultural supply chain) and Searchinger et al. (2018) (carbon opportunity costs).

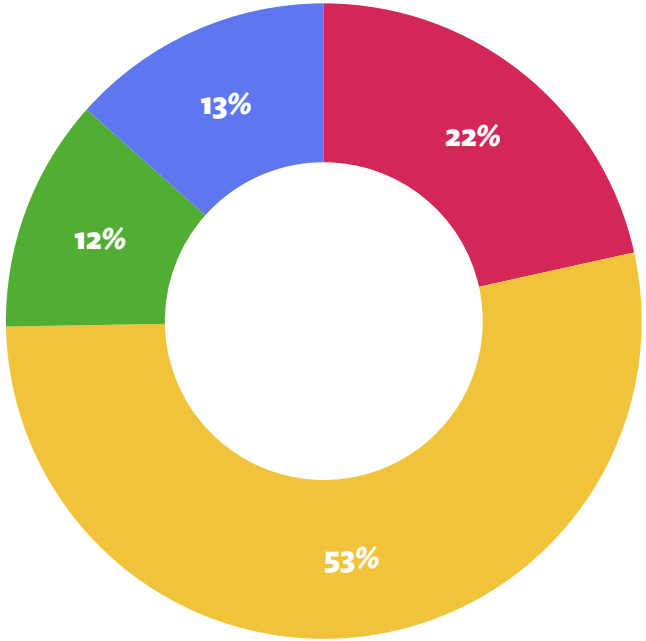
City of New York - Citywide: total food-related GHG emissions (2023)

Ruminant meats	1%
Dairy	27%
Poultry	6%
Seafood	1%
Eggs	0%
Pork	0%
Animal-based foods (misc.)	0%
Grains	15%
Legumes/nuts/seeds	5%
Plant-based milk subs.	0%
Fruits & vegetables	30%
Roots/tubers	8%
Vegetable oils	5%
Alcohol, stimulants, spices	1%
Added sugars	0%

Food purchases 115,650,901 kg (2023)



Total food-related GHG emissions (carbon costs) 1,096,729 tonnes CO_2e (2023)

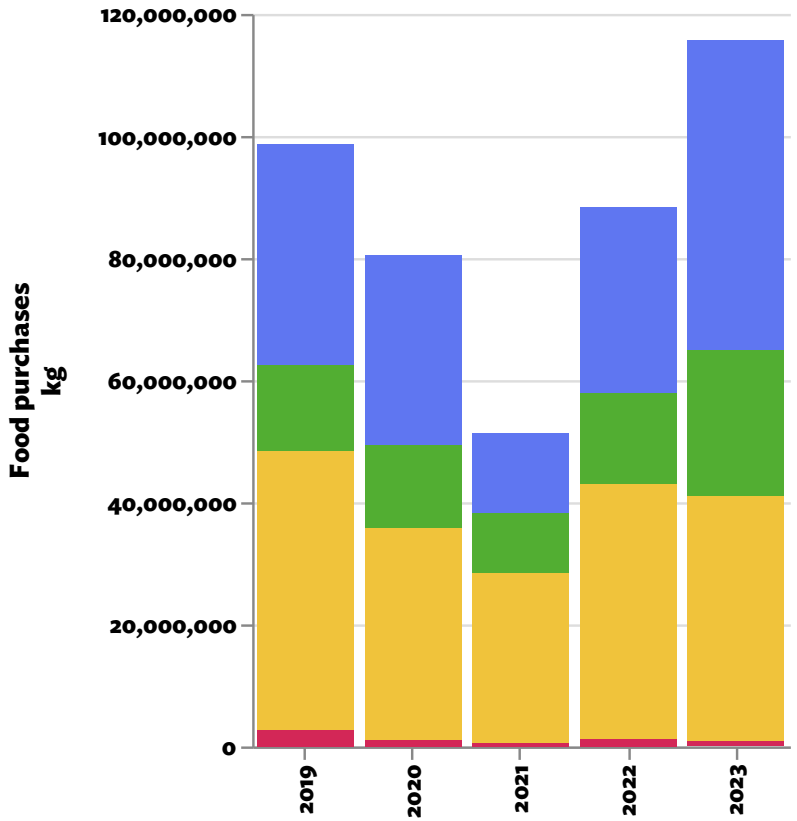


Ruminant meats	22%
Dairy	39%
Poultry	11%
Seafood	2%
Eggs	0%
Pork	0%
Animal-based foods (misc.)	0%
Grains	6%
Legumes/nuts/seeds	6%
Plant-based milk subs.	0%
Vegetable oils	6%
Fruits & vegetables	4%
Alcohol, stimulants, spices	1%
Roots/tubers	1%
Added sugars	0%

Beef and lamb | Other animal-based foods | Plant proteins | Other plant-based foods

Sources: Purchase data provided by member. Emission factors from Poore and Nemecek (2018) (agricultural supply chain) and Searchinger et al. (2018) (carbon opportunity costs).

City of New York - Citywide: total food purchases (2019-2023)

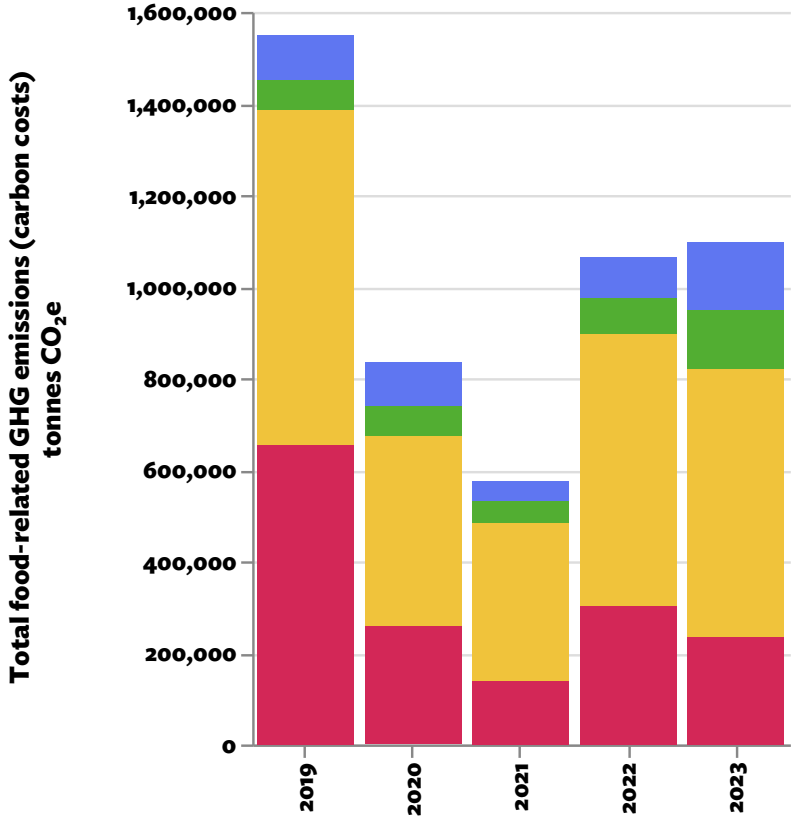


Food type	% change
Ruminant meats	-64%
Pork	-77%
Animal-based foods (misc.)	-33%
Dairy	-18%
Poultry	+10%
Eggs	+80%
Seafood	+141%
Plant-based milk subs.	-73%
Grains	+65%
Legumes/nuts/seeds	+144%
Fruits & vegetables	+35%
Roots/tubers	+52%
Vegetable oils	+55%
Added sugars	+122%
Alcohol, stimulants, spices	+193%
Total	**+17%**

Beef and lamb Other animal-based foods Plant proteins Other plant-based foods

Source: Purchase data provided by member.

City of New York - Citywide: total food-related emissions (2019-2023)

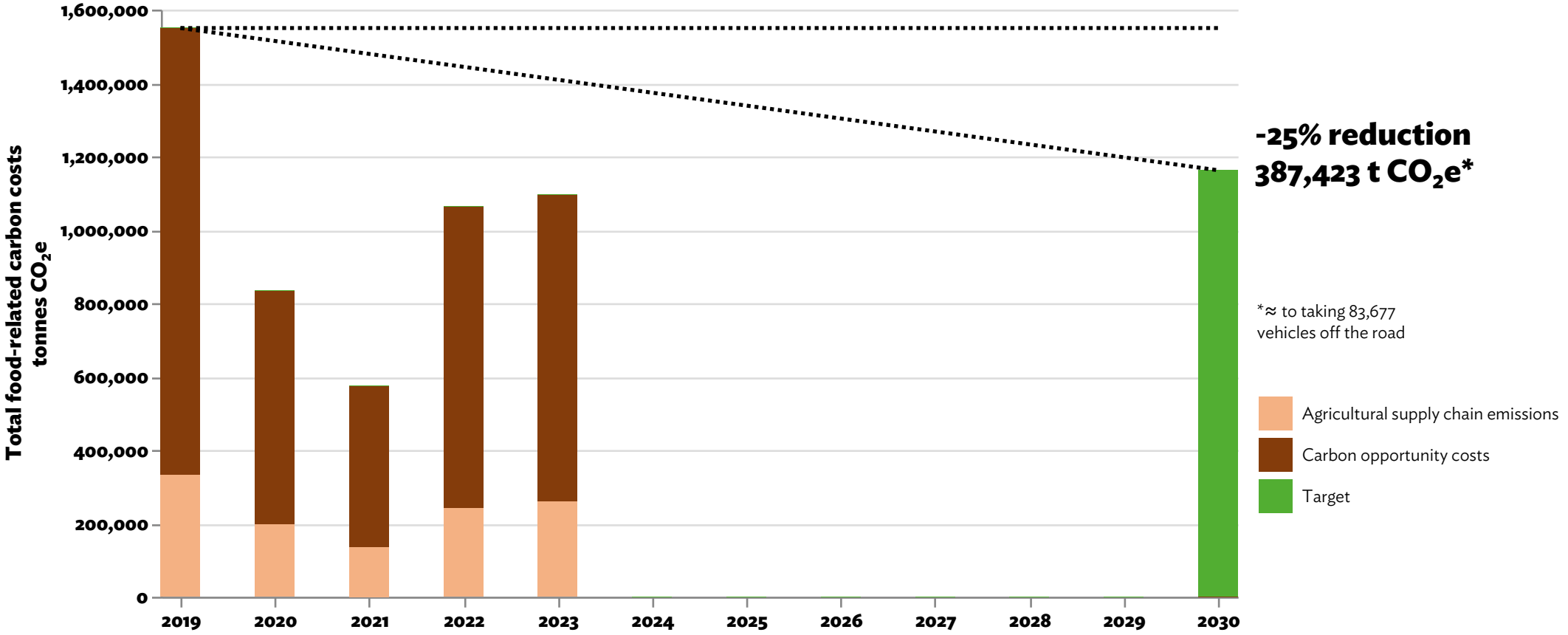


Beef and lamb | Other animal-based foods | Plant proteins | Other plant-based foods

	% change
Total food-related GHG emissions	-29.23%
Emissions per 1,000 kcal	-43.70%

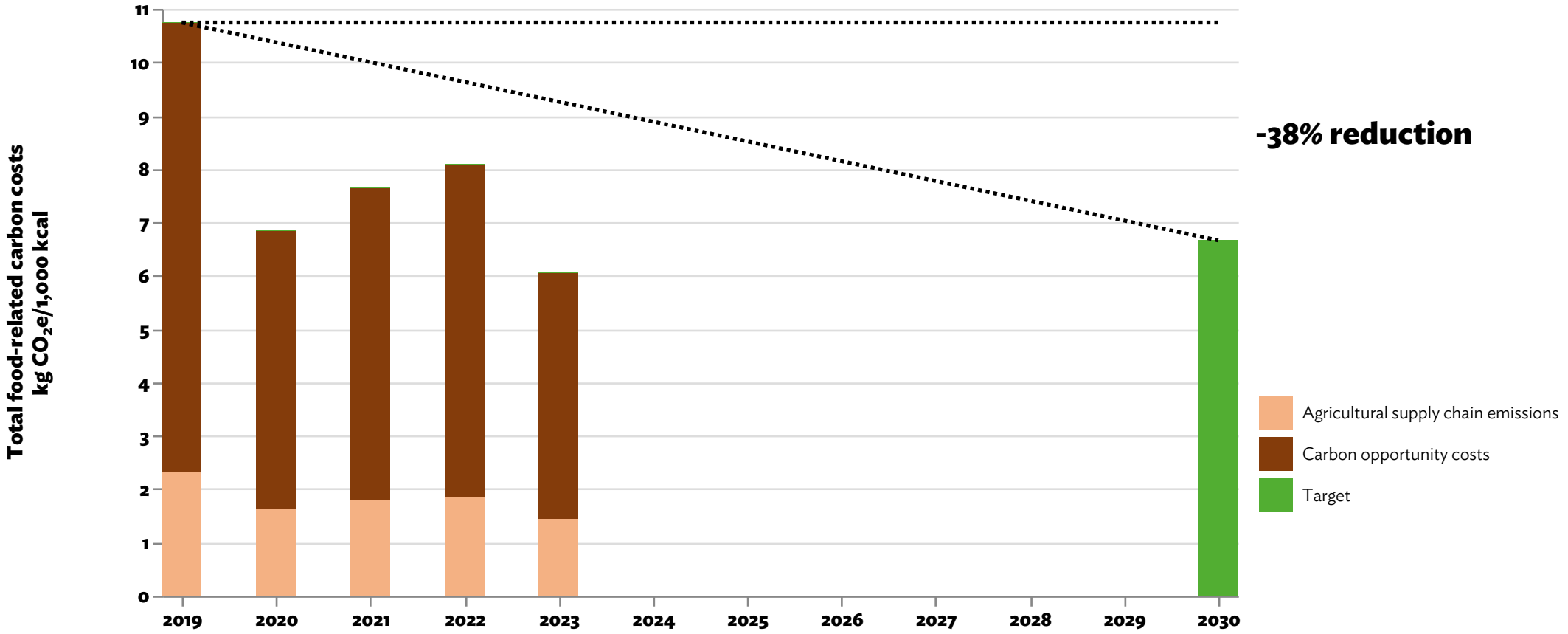
Sources: Purchase data provided by member. Emission factors from Poore and Nemecek (2018) (agricultural supply chain) and Searchinger et al. (2018) (carbon opportunity costs).

Progress against absolute 25% target



Sources: Emission factors from Poore and Nemecek (2018) (agricultural supply chain) and Searchinger et al. (2018) (carbon opportunity costs). GHG equivalency to passenger vehicles from EPA (2021) and assumes 4.63 t CO_2e/vehicle/year.

Progress against relative 38% target



Sources: Emission factors from Poore and Nemecek (2018) (agricultural supply chain) and Searchinger et al. (2018) (carbon opportunity costs).

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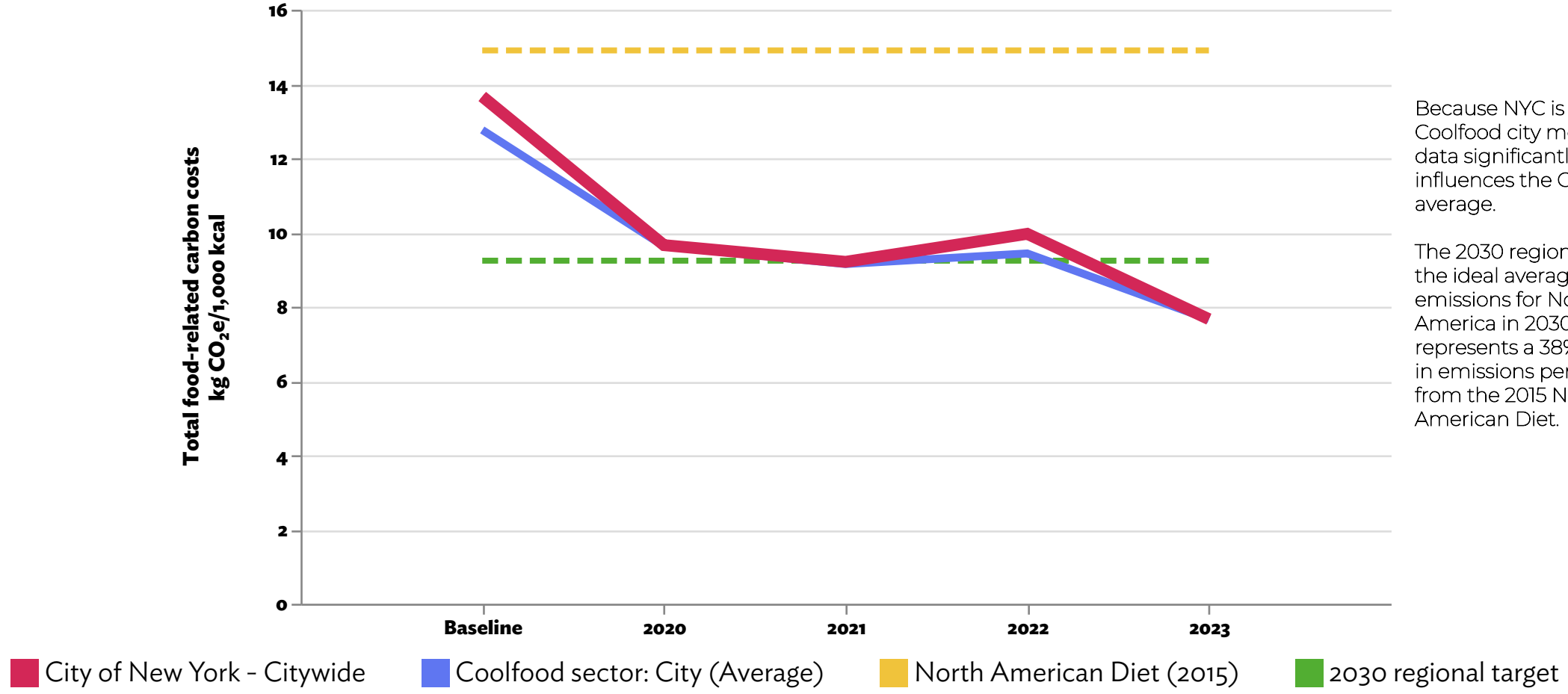
Benchmarking against sectoral and regional performance (per 1,000 kcal)



Because NYC is the largest Coolfood city member, our data significantly influences the City sector average.

The 2030 regional target is the ideal average diet emissions for North America in 2030. It represents a 38% reduction in emissions per 1,000 kcal from the 2015 North American Diet.

Sources: Emission factors from Poore and Nemecek (2018) (agricultural supply chain) and Searchinger et al. (2018) (carbon opportunity costs). Note: only "mandatory foods" (animal and plant proteins) are counted in this chart for comparability across all members.

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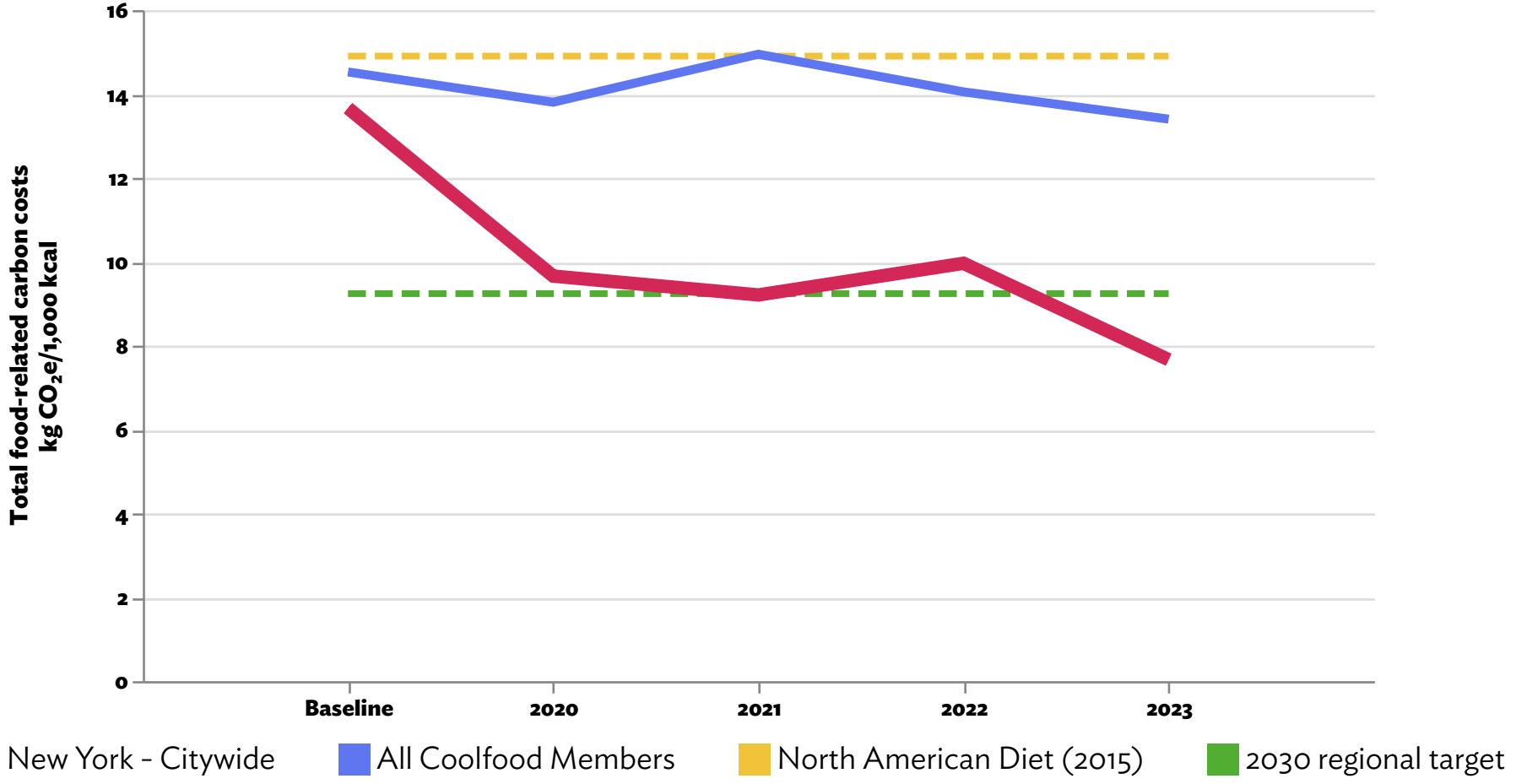
Benchmarking against all Coolfood and regional performance (per 1,000 kcal)



Sources: Emission factors from Poore and Nemecek (2018) (agricultural supply chain) and Searchinger et al. (2018) (carbon opportunity costs). Note: only "mandatory foods" (animal and plant proteins) are counted in this chart for comparability across all members.