

Greenhouse gas emission data and methodology

June 2024

1. General provisions

1.1 Abbreviation definitions

Unless otherwise indicated, abbreviations used throughout this document have the following meanings:

- "EPA" refers to the United States Environmental Protection Agency. As the federal agency tasked with protecting human health and the environment, the EPA provides technical assistance for the calculation of greenhouse gas emissions.
- "Greenhouse gas" refers to greenhouse gas and the associated major emissions (carbon dioxide [CO₂], methane [CH₄], nitrous oxide [N₂O]), and the F-gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride (SF₆) as defined by the EPA.
- "MTCO₂e" stands for metric tons of CO₂ equivalent. This is the unit of measurement used to express the global warming potential of greenhouse gas in terms of CO₂, allowing for the comparison of emissions from different greenhouse gases.
- "GWP" refers to global warming potential and is a measure of how much heat a greenhouse gas traps in the atmosphere relative to CO₂. GWP is utilized in the formula to convert activity data into MTCO₂e of emissions.
- "NAICS codes" refers to North American Industry Classification System codes; these are standardized codes used to classify businesses and industries based on their primary economic activity.

1.2 Greenhouse gas overview and document objectives

RSM US LLP is committed to transparently and accurately reporting its greenhouse gas emissions. In 2022, guided by RSM's [sustainability advisory practice](#), the firm established its baseline for greenhouse gas reporting. This involved collecting data from its U.S. operations to report on Scope 1, 2 and select Scope 3 (specifically Category 6: Business travel) greenhouse gas emissions during the reporting period. RSM is continuously evaluating its internal controls around greenhouse gas data collection and calculation to enhance these processes year over year. This document was informed by guidance from the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (Greenhouse Gas Protocol), including the following specific documents: [Greenhouse Gas Protocol – Corporate Accounting and Reporting Standard](#), [Greenhouse Gas Protocol Scope 2 Guidance](#), and [Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#). RSM has set realistic and consistent emission reduction targets based off its 2022 base year and will continue to expand data collection efforts across the firm's full geographic footprint.

This document has been prepared to provide guidance for RSM in managing greenhouse gas-related matters and to provide transparency for RSM's stakeholders into the development of our greenhouse gas inventory.

RSM is committed to reviewing the document annually to:

- Ensure methodologies and approaches are consistent with industry-leading standards and practices including the Greenhouse Gas Protocol
- Provide ongoing guidance for the firm in managing its environmental, social and governance (ESG) strategy
- Ensure that RSM's base year is in line with the methodology described in the baseline recalculation section

2. Greenhouse gas emissions data

RSM's carbon footprint	Jan. 1, 2022 – Dec. 31, 2022	Jan. 1, 2023–Dec. 31, 2023
Total gross GHG emissions (MTCO ₂ e)	32,079.45*	30,664.14
Scope 1	1,168.91	943.30
<i>Natural gas utility</i>	1,168.91	943.30
Scope 2	11,189.45	10,756.02
<i>Electricity utility</i>	10,968.91	10,517.56
<i>Steam utility</i>	220.53	238.46
Scope 3	19,721.09	18,964.83
<i>Air travel</i>	11,650.58	10,350.99
<i>Non-air travel</i>	3,664.16	3,999.51
<i>Accommodations</i>	4,406.35	4,614.33

*Calendar year (CY) 2022 Scope 1 and 2 data have been retroactively updated to reflect RSM's energy usage more accurately in 2022 due to data received from office landlords after the publishing of last year's report. In addition, to maintain comparability, CY 2022 Scope 3 emissions were updated, accounting for changes in calculation methodology.

This inventory only includes RSM US LLP offices located in the U.S.

3. Greenhouse gas inventory development methodology

3.1 Inventory approach—Boundary setting

Organizational boundary setting

RSM US LLP is a limited liability partnership and the U.S. member firm of RSM International, a global network of independent assurance, tax and consulting firms. RSM's organizational boundary, for the purposes of this report, is limited to its U.S. operations. Within U.S. operations, we use an operational control approach to define our organizational boundaries whereby we account for emissions generated from operations under our control in the U.S. As detailed in Chapter 3 of the [Greenhouse Gas Protocol Corporate Accounting and Reporting Standard](#), a company has operational control if the company, or one of its subsidiaries, has the full authority to introduce and implement its operating policies at the operation. All RSM offices in the U.S. occupied during the 2023 calendar year (or a portion of the year) are included in our greenhouse gas inventory.

Operational boundary setting

RSM's current greenhouse gas emissions inventory includes Scope 1, Scope 2 and select Scope 3 emission sources (see emissions scope sources table below) as detailed in Chapter 4 of the [Greenhouse Gas Protocol Corporate Accounting and Reporting Standard](#). Additional Scope 3 emissions that are not considered in the current greenhouse gas inventory may be introduced in the future based on data availability and/or stakeholder expectations.

Scope	Emissions source(s)	Data collection source(s)
Scope 1	Direct greenhouse gas emissions from natural gas combustion in RSM offices	Energy utility information form, utility bills
Scope 2	Indirect greenhouse gas emissions from the generation of purchased electricity and steam consumed by RSM	Energy utility information form, utility bills
Scope 3	RSM business travel	RSM expense reports, travel management systems, hotel invoices

The energy utility information form that is sent to all RSM office location managers is provided in the appendix.

3.2 Greenhouse gas emission quantification

RSM applies the Greenhouse Gas Protocol to calculate its Scope 1, Scope 2 and select Scope 3 greenhouse gas emissions in MTCO₂e across each emission category. For Scope 1 and 2 emissions, RSM leveraged the EPA's [Greenhouse gas emissions calculator tool](#). All emissions are calculated using the following generalized formula:

$$\text{Emissions} = \text{activity data} \times \text{emission factor} \times \text{GWP}$$

Note:

- **Activity data.** Represents the units of measure of electricity (kilowatt hour—kWh), natural gas consumption (therms, 100 cubic feet—CCF, one million British thermal units—MMBtu), and steam usage (MMBtu, kilopound—kLb).
- **Emission factor.** Represents the mass of resultant emissions (i.e., grams of CH₄ or N₂O and kilograms of CO₂) per unit of activity data.
- **GWP.** Is used to convert the total emissions per unit of activity data (from the emission factor) into MTCO₂e. GWP values were taken from the [EPA greenhouse gas emissions factor hub](#) for 100-year time horizon GWP relative to CO₂ ([last modified Feb. 13, 2024](#))

4. Calculation methodology

4.1 Scope 1 emissions overview

RSM's Scope 1 emissions calculation focuses on one of the four Scope 1 emission source categories: stationary combustion. To calculate these emissions, RSM collects natural gas usage data from utility bills provided by the offices. For offices using natural gas, but unable to provide complete usage data, estimations outlined in the "Scope 1 and 2 Emissions—Key estimations and assumptions" section are used. Once data is collected, the Greenhouse Gas Protocol guidance is followed to convert usage data into MTCO₂e using the appropriate emission factors and GWP factors for natural gas.

Other Scope 1 emissions outside of RSM's operations, or not able to have data collected, include the following:

- **Mobile combustion.** RSM does not own or lease any fleet vehicles and has no other sources of mobile combustion emissions
- **Process emissions.** RSM does not have any industrial or manufacturing processes associated with business operations
- **Fugitive emissions.** Data for fugitive (leakage) emissions is not readily available for office locations but may be included in the future

For emissions relevant to RSM operations that data cannot be collected for (i.e., fugitive emissions), RSM is working with office managers to improve data collection processes.

4.2 Scope 2 emissions overview

RSM assumes all material Scope 2 emissions arise from purchased electricity and steam, and any emissions associated with district heating or cooling sources are immaterial. To calculate these emissions, RSM collects electricity and steam usage data from utility bills provided by the offices. Once data is collected, the Greenhouse Gas Protocol guidance is followed to calculate location-based Scope 2 emissions by converting usage data into MTCO₂e using the appropriate eGrid emission factors for electricity production based on office geographic location. Each office's eGrid emission factor is determined using the EPA's most recent [eGrid subregion map](#).

As RSM does not purchase any renewable energy credits, RSM only reports on Scope 2 location-based emissions.

4.3 Scope 1 and 2 emissions key estimations and assumptions

While the majority of RSM offices provided a full calendar year of data (i.e., a 365-day period spanning within December 2022 and January 2024), not all data was able to be collected across office locations. Where office data related to Scope 1 and 2 emissions is either missing or not fully available, and a reasonable amount of effort has been used to gather the data, RSM uses available data to estimate missing data. In such cases, Scope 1 and 2 emissions were estimated using the following methodologies:

- Where data is missing for one or two consecutive months between December 2022 and January 2024, energy consumption was estimated using the average consumption of the month prior to the gap and the month following the gap.
- Where data is missing for the final month or final two months of the year but was collected for the preceding months of the year, an estimated daily energy consumption amount is calculated based on that site's available data and extrapolated to the remaining months.
- Where data is entirely absent for an office location or missing for more than two consecutive months, RSM estimates energy consumption for the missing months by using offices with similar profiles as proxies to derive an estimated average activity data per square foot for the office(s) needing estimation. For estimation of Scope 2 emissions from electricity, both office size and geographic region is considered resulting in 25 region-tier clusters as illustrated below:

Average kWh/square feet by region by tier

Region tiers	Central	Great Lakes	Northeast	Southeast	West
1 - Below 10,000	1-Central avg.	1-Great Lakes avg.	1-Northeast avg.	1-Southeast avg.	1-West avg.
2 - 10,001 to 16,999	2-Central avg.	2-Great Lakes avg.	2-Northeast avg.	2-Southeast avg.	2-West avg.
3 - 17,000 to 26,999	3-Central avg.	3-Great Lakes avg.	3-Northeast avg.	3-Southeast avg.	3-West avg.
4 - 27,000 to 79,999	4-Central avg.	4-Great Lakes avg.	4-Northeast avg.	4-Southeast avg.	4-West avg.
5 - Over 80,000	5-Central avg.	5-Great Lakes avg.	5-Northeast avg.	5-Southeast avg.	5-West avg.

For estimation of Scope 1 emissions from natural gas, due to a smaller sample size of offices using natural gas and providing natural gas data, only geographic region was considered for office proxies resulting in five estimation factors as illustrated below:

Average therms/square feet

Region tiers	Region average
Central	Central avg.
Great Lakes	Great Lakes avg.
Northeast	Northeast avg.
Southeast	Southeast avg.
West	West avg.

After calculating the activity data intensity factors, activity data for offices with missing data was determined by multiplying the estimation factor by the office's square footage, while also considering the number of months requiring estimation. For instance, if an office lacks data for five months, the resulting product is adjusted proportionally.

4.4 Scope 3 emissions

Scope 3 emission categories, representing emissions from sources outside the company's direct control, are evaluated based on (1) materiality assumptions (i.e., which Scope 3 emissions have the biggest impact on day-to-day operations) and (2) data availability. Thus, the [Greenhouse Gas Protocol's Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#) guidance is followed to calculate Scope 3 emissions for Category 6: Business travel (leveraging both the distance- and spend-based approaches). Additionally, RSM categorizes business travel emissions by air travel, non-air travel and accommodations. Further detail on the calculation methodology is outlined in the "Scope 3 emissions—Category 6 key estimations and assumptions" section.

4.5 Scope 3 emissions—Category 6: Business travel

For Scope 3 emissions calculated using the spend-based approach (i.e., non-air travel and accommodations), commodity-specific emission factors based on dollar spend, as provided in the EPA's [Supply Chain Greenhouse Gas Factors v1.2 by NAICS-6](#) by CO2e, are used. To maintain consistency between RSM's year-over-year Scope 3 emissions, the emission factors leveraged in the EPA's supply chain greenhouse gas emission factors were retroactively applied to CY 2022's spend-based emissions.

4.6 Scope 3 emissions—Category 6: Business travel key estimations and assumptions

Air travel

Distance-based air travel

To calculate air travel emissions for which mileage data exists, RSM leverages the EPA emission factors Table 10, Scope 3 Category 6: Business travel and Category 7: Employee commuting, to obtain emissions factors. Emission factors for short-haul air travel (less than 300 miles), medium-haul air travel (300 to 2,300 miles), and long-haul air travel (more than 2,300 miles) are leveraged.

Once CY flight data for RSM employees is gathered, each of the EPA's emission factors are multiplied to their respective GWP and flight data (based on distance categories) in order to obtain distance-based air travel emissions. Notably, within the raw data provided, negative mileage values are assumed to be cancelled flights. As such, these mileage values are kept as negative, and when categorizing the flights into the three aforementioned categories, the sums of the negative mileage values are included to account for mileage RSM professionals did not actually fly following their initial booking.

Spend-based air travel

A portion of air travel emissions, deriving from RSM professionals who did not use the firm flight booking system for a flight, are calculated using spend data. As detailed below, RSM utilizes commodity-specific emissions factors to determine emissions produced per dollar spent. For air travel, as indicated in the table below, the scheduled passenger air transportation NAICS code emission factor is used to calculate this portion of air travel emissions.

Non-air travel and accommodations

Spend-based travel and accommodations

In RSM's expense report spend data, categorized by car rental fuel, car rental, hotel lodging, mileage, public transit, taxi/car service and airfare, is collected. This data, provided in U.S. dollars, is collected and aggregated based on category. For spend-based emissions, RSM uses commodity-specific emission factors from the EPA's [Supply chain Greenhouse Gas Emission Factors v1.2 by NAICS-6](#), by CO2e, to determine an emissions-per-dollar factor. Because emission factors are based on 2021 purchaser prices, an appropriate inflation rate is applied to convert emissions to the current reporting year. Spend categories use spend-based emission factors from the following NAICs code titles:

RSM spend category	NAICs code title
Car rental*	Passenger car rental
Car rental fuel*	Passenger car rental
Hotel, lodging	Hotels (except casino hotels) and motels
Mileage	Mixed mode transit systems
Airfare	Scheduled passenger air transportation
Taxi/car service	Taxi service
Public transit	Line-haul railroads

*Car rental and car rental fuel:

Car rental fuel specifically refers to money spent on fuel, while car rental includes additional charges like flat fees or daily rates on the vehicles themselves. RSM categorizes car rental with the same emission factor as car rental fuel because car rental data is not broken out by miles driven, and there is no indication as to whether this dollar amount accounts for vehicles separate from those accounted for in car rental fuel. As such, RSM recognizes the risk of double counting these emissions, and is creating guidance going forward for its professionals to identify specific costs associated with vehicles so they can be properly classified.

Rail emissions

Rail emissions for which mileage activity data is available represents the only component of non-air travel emissions calculated using a distance-based methodology. RSM utilizes emission factors from the EPA emission factors Table 10, "Scope 3 Category 6: Business travel and Category 7: Employee commuting" for intercity rail—national average C. These emission factors are multiplied by their respective GWP and mileage data to produce emissions from rail travel.

It's worth noting that while some railroad activity may fall under the Northeast corridor emission factor, RSM cannot independently verify individual data points to confirm corresponding rail routes resulting in one set of emission factors (i.e., intercity rail—national average C) being used.

5. Baseline recalculation

Based on the availability of data, RSM has selected calendar year 2022 as the firm's greenhouse gas emission baseline, which will remain fixed in accordance with the Greenhouse Gas Protocol corporate standard. Furthermore, per the Greenhouse Gas Protocol corporate standard, several activities described below might trigger a base-year inventory recalculation. These activities are reviewed on an annual basis to ensure the accuracy and relevance of RSM's emissions baseline.

RSM maintains accuracy, consistency and transparency in greenhouse gas emissions by requiring a base-year recalculation if significant changes occur due to structural changes, methodological updates or identified errors. (Note: "significant" in the context of RSM's base-year calculation refers to a 10% or greater net change in base-year greenhouse gas emissions. RSM reserves the right to recalculate the base year if changes occur that do not meet the significance threshold deemed material enough by management to warrant a recalculation.)

Appendix—Communications with RSM office location managers

RSM Energy Utility Information Form



Monitoring and reducing GHG emissions is a strategy pillar of RSM's mission to cultivate sustainable communities and drive positive environmental practices. The information collected in this form will be used to calculate RSM's carbon emissions related to **energy utilities (e.g., electricity, natural gas, steam, cooling, etc.) used at this property during 2023. Answers should reflect the energy utilities setup during 2023.**

Contact Information

Please provide the contact information for the person completing this form.

Name		Company	
Phone Number		Email	

Basic Property Information

What is the address and square footage (sq. ft.) for the RSM leased space? If the rental space is located in multiple buildings, include all addresses and total square footage.

Rental Property Address(es)		Sq. ft. leased by RSM	
Total sq. ft. of building(s)		% total space RSM leases	

Energy Utility

Complete the below fields for all the energy utilities used at this location.

Energy Utilities	Is this utility usage attributed to RSM?	Is the utility sub-metered to RSM space or pro rata share?	If pro rata share, what % is billed to RSM?	Who manages the acct with the utility company?
Electricity - RSM office space	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sub-metered to RSM <input type="checkbox"/> Pro rata share	_____ %	<input type="checkbox"/> Property <input type="checkbox"/> RSM
Electricity* - Separate RSM IT server room	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sub-metered to RSM <input type="checkbox"/> Pro rata share	_____ %	<input type="checkbox"/> Property <input type="checkbox"/> RSM
Electricity* - Common area(s)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sub-metered to RSM <input type="checkbox"/> Pro rata share	_____ %	<input type="checkbox"/> Property <input type="checkbox"/> RSM
Natural Gas	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sub-metered to RSM <input type="checkbox"/> Pro rata share	_____ %	<input type="checkbox"/> Property <input type="checkbox"/> RSM
Steam	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sub-metered to RSM <input type="checkbox"/> Pro rata share	_____ %	<input type="checkbox"/> Property <input type="checkbox"/> RSM
Cooling	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sub-metered to RSM <input type="checkbox"/> Pro rata share	_____ %	<input type="checkbox"/> Property <input type="checkbox"/> RSM
Other (enter type): _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Sub-metered to RSM <input type="checkbox"/> Pro rata share	_____ %	<input type="checkbox"/> Property <input type="checkbox"/> RSM

* Complete these rows only if RSM's electricity usage for an IT server room and/or common space are billed separately from the RSM office space.

Source: RSM energy utility information form



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- Contact property management. For the information and data you do not have, download and use this template email and RSM energy utility request form to request it from the building property manager. Customize the email to include the data you need and consider prepopulating the form with any answers you already have.
 - Energy utility data collection. Collect documentation with usage data, create a folder for the office in OneDrive and upload documents. Monthly data is needed for all energy utilities (e.g., electricity, natural gas, steam, etc.) used in the office during 2023.
 - Documents can include invoices from an energy company or property management (highly preferred) or Excel/email with a data chart with the monthly usage breakdown.
 - Examples of usage data units:
 - Electricity: kWh, TWh
 - Natural gas and steam: BTU, MMBTU, Therm, CCF

FAQs

- Criteria for offices. Energy utility data is needed for all RSM offices located in U.S. during calendar year 2023. If an office location moved during that 12-month period, data should be collected and submitted for both the old and new locations.
- Energy utilities. This includes electricity, natural gas, steam or other energies used to power the office.
- Metered. When utility meter(s) are used to measure the actual usage for RSM office space.
- Pro rata share. When utility meter(s) capture usage for more than RSM office. Property management handles utilities and bills RSM a percentage based on square footage.
- Renewable energy
 - Renewable energy agreements (power purchase agreements). Contracts to buy renewable energy at agreed upon volumes and prices.
 - Solar on-site. The building has its own solar panels to provide energy for the building.

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