



Verification Statement

Background

Optera was engaged by Marsh and McLennan Companies, Inc. (MMC) to provide independent verification on the accuracy of selected information included in MMC's 2022 emissions inventory, and express a conclusion as to whether the GHG assertion contained in the inventory is presented fairly in accordance with (1) ISO 14064-1 *Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*, and (2) World Resource Institute (WRI) and World Business Council for Sustainable Development (WBCSD) *Greenhouse Gas Protocol* (GHG Protocol).

Per contractual agreement, MMC's 2022 GHG Emissions Inventory Verification Report and Statement were prepared by Optera solely for MMC's benefit. The information contained therein, its presentation to CDP and inclusion in corporate sustainability reports are the sole responsibility of MMC.

Boundary and Scope

Optera examined MMC's 2022 greenhouse gas (GHG) emissions assertion from three scopes:

- Scope 1 – direct emissions, including onsite heating, fugitive emissions and fleet vehicles;
- Scope 2 – indirect emissions,
 - Location-based accounting method,
 - Market-based accounting method; and
- Scope 3 – other indirect emissions, including
 - Business travel: commercial air and rail travel

The verification was conducted on 100 percent of MMC's reported scope 1 and scope 2 emissions. The scope 3 verification was conducted on 100 percent of the reported emissions from Business Travel: commercial air and rail travel. This inventory includes all direct and indirect emissions from facilities and travel that are under MMC's *operational control*: all MMC offices, data centers, corporate headquarters, commercial airline and rail travel, and fleet vehicles for its worldwide operations.

Period Covered

MMC's GHG assertion covers the 2022 calendar year: 1 January to 31 December 2022.

Data Verified

The final quantities verified were presented in *MMC 2022 Inventory for Verification 03.17.2023.xlsx*, as follows:

Item	Quantity
Scope 1 emissions	27,036 mtCO _{2e}
Scope 2 emissions	
Location-based emissions	71,651 mtCO _{2e}
Market-based emissions	68,030 mtCO _{2e}
Scope 3 emissions	
Business Travel: Commercial Air Travel	50,634 mtCO _{2e}



Business Travel: Commercial Rail Travel

20 mtCO₂e

Year over Year Change in Emissions

Optera was also able to verify MMC's assertion that the year-on-year change in emissions, from the 2021 to 2022 inventory is as follows:

Item	2021 Quantity	2022 Quantity	% Change
Scope 1 emissions (mtCO ₂ e)	24,152	27,036	+12%
Scope 2 emissions (mtCO ₂ e)			
Location-based emissions	78,935	71,651	-9%
Market-based emissions	83,443	68,030	-18%
Scope 3 emissions (mtCO ₂ e)			
Business Travel: Commercial Air travel	7,398	50,634	+584%*
Business Travel: Commercial Rail travel	N/A	20	N/A

*Significant increase a result of increased, post-pandemic travel; as well as data improvement and methodology change
Historical data was used to inform the calculation of this assertion.

Methodology

This Verification has been developed based on principles and methods described in (1) ISO 14064-3 *Specification with Guidance for the validation and verification of greenhouse gas assertions*, and (2) The Climate Registry *General Verification Protocol*. The verification has been conducted to achieve a *limited level of assurance*. Given the status of MMC's GHG emissions inventory and management system, a limited level of assurance verification was appropriate for this project.

As part of the independent assessment Optera performed the following tasks:

- Examination of the 2022 corporate GHG inventory report and assertion;
- Examination of underlying calculations to confirm the formula references and accumulation of data, and re-performance of a sample of the calculations;
- Determination as to whether the elements of the protocol reference were consistently and appropriately applied;
- Cross-check of emission factors against referenced sources and assessment of the appropriateness of the selected factors;
- Evaluation of potential errors, omissions or misrepresentations resulting from data input, transformation and/or output processes; and
- Collection of testimonial evidence (i.e. interviews), data review and sampling to provide understanding of management/operational and control procedures implemented by MMC to ensure the quality, integrity and security of its GHG information.

Findings

Based on Optera's examination, MMC's 2022 emissions assertions are presented fairly and in accordance with the verification criteria, in all material respects.

It is Optera's opinion that there is no evidence that MMC's 2022 GHG assertion is not:



- Founded upon appropriate systems for the collection, aggregation and analysis of quantitative data for determination of Scope 1 (direct), Scope 2 (indirect) and limited Scope 3 emissions (other indirect), including only Business Travel: commercial air and rail travel;
- Correct at a *limited* level of assurance;
- Meets the minimum level of accuracy of at least 95 percent;
- Accurate, materially correct, and a fair representation of GHG data and information; and
- Prepared in accordance with ISO 14064-1 and The Climate Registry General Reporting Protocol, including associated requirements for the design, development, management, reporting and verification of an organization's GHG inventory.

Statement of Independence, Impartiality and Competence

Optera is an independently owned and operated consulting and software services company that specializes in technical analysis and innovation for efficiency and renewable resources. Optera has considerable experience in the development, reporting and verification of GHG emissions information for industrial, utility, municipal and corporate clients. Optera's verification team did not contribute to the compilation of MMC's 2022 fiscal year GHG inventory and did not work on the GHG inventory beyond what is required of this assignment. Optera has conducted this verification independently, and there has been no conflict of interest.

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Miranda Davis

Lead Reviewer

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Ty Colman

Peer Review

March 29, 2023