



2023 Emissions by Scope ⁽¹⁾⁽²⁾		
Scope	Primary (MB) mtons CO2e	Secondary (LB) mtons CO2e
Scope 1	136	136
Scope 2	513	7,048
Total	649	7,184

2023 Scope 3 Emissions by Category ⁽¹⁾⁽²⁾	
Source	mtons CO2e
C1 - Purchased Goods & Services	44,051
C3 - Fuel & Energy-Related Activities	2,585
C5 - Waste generated in operations	174
C6 - Business travel	4,733
C7 - Employee commuting	4,404
C8 - Upstream Leased Assets	-
C11 - Use of sold products	2,270
C13 - Downstream leased assets	357
C15 - Financed Emissions	47
Total	58,621

2022 Emissions by Scope ⁽¹⁾⁽²⁾		
Scope	Primary (MB) mtons CO2e	Secondary (LB) mtons CO2e
Scope 1	154	154
Scope 2	673	7,051
Total	827	7,205

2022 Scope 3 Emissions by Category ⁽¹⁾⁽²⁾	
Source	mtons CO2e
C1 - Purchased Goods & Services	35,362
C3 - Fuel & Energy-Related Activities	2,640
C5 - Waste generated in operations	136
C6 - Business travel	2,441
C7 - Employee commuting	3,833
C8 - Upstream Leased Assets	-
C11 - Use of sold products	2,883
C13 - Downstream leased assets	316
C15 - Financed Emissions	48
Total	47,659

2021 Emissions by Scope ⁽¹⁾⁽²⁾		
Scope	Primary (MB) mtons CO2e	Secondary (LB) mtons CO2e
Scope 1	160	160
Scope 2	1,193	6,707
Total	1,353	6,867

2021 Scope 3 Emissions by Category ⁽¹⁾⁽²⁾	
Source	mtons CO2e
C1 - Purchased Goods & Services	30,520
C3 - Fuel & Energy-Related Activities	2,188
C5 - Waste generated in operations	133
C6 - Business travel	950
C7 - Employee commuting	3,446
C8 - Upstream Leased Assets	8
C11 - Use of sold products	3,044
C13 - Downstream leased assets	413
C15 - Financed Emissions	19
Total	40,721

2020 Emissions by Scope ⁽¹⁾⁽²⁾		
Scope	Primary (MB) mtons CO2e	Secondary (LB) mtons CO2e
Scope 1	230	230
Scope 2	3,743	7,586
Total	3,973	7,816

2020 Scope 3 Emissions by Category ⁽¹⁾⁽²⁾	
Source	mtons CO2e
C1 - Purchased Goods & Services	33,084
C3 - Fuel & Energy-Related Activities	2,807
C5 - Waste generated in operations	117
C6 - Business travel	1,798
C7 - Employee commuting	3,064
C8 - Upstream Leased Assets	8
C11 - Use of sold products	2,026
C13 - Downstream leased assets	413
C15 - Financed Emissions	21
Total	43,338

2019 Emissions by Scope ⁽¹⁾⁽²⁾		
Scope	Primary (MB) mtons CO2e	Secondary (LB) mtons CO2e
Scope 1	272	272
Scope 2	4,426	7,721
Total	4,698	7,993

2019 Scope 3 Emissions by Category ⁽¹⁾⁽²⁾	
Source	mtons CO2e
C1 - Purchased Goods & Services	37,706
C3 - Fuel & Energy-Related Activities	2,847
C5 - Waste generated in operations	677
C6 - Business travel	9,052
C7 - Employee commuting	5,453
C8 - Upstream Leased Assets	8
C11 - Use of sold products	2,026
C13 - Downstream leased assets	417
C15 - Financed Emissions	22
Total	58,208

¹ Carbon footprint metrics for 2019, 2020, 2021, 2022, and 2023 verified with limited assurance. They may differ from those previously published due to retroactive recalculations made in accordance with the GHG Protocol. (Greenhouse Gas Protocol A Corporate Accounting and Reporting Standard REVISED EDITION. World Resources Institute. Copyright © World Resources Institute and World Business Council for Sustainable Development, March 2004. Page 35-37).

<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf#page=37>

² MB or market-based: A method to quantify the scope 2 GHG emissions of a reporter based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with contractual instruments, or contractual instruments on their own.

LB or location-based: A method to quantify scope 2 GHG emissions based on average energy generation emission factors for defined geographic locations, including local, subnational, or national boundaries.

Source: GHG Protocol Scope 2 Guidance, An amendment to the GHG Protocol Corporate Standard, World Resource Institute, 2015. Page 26. Scope 2 Guidance_Final_Sept26.pdf

https://ghgprotocol.org/sites/default/files/standards/Scope%202%20Guidance_Final_Sept26.pdf



MSCI 2019-2021 Emissions ⁽¹⁾⁽²⁾	2023	2022	2021	2020	2019	2023 YoY Change	2022 YoY Change	2021 YoY Change	2020 YoY change	2019-2023 Change
Primary (MB) mtons CO2e	649	827	1,353	3,973	4,698	-22%	-39%	-66%	-15%	-86%
Secondary (LB) mtons CO2e	7,184	7,205	6,867	7,816	7,993	0%	5%	-12%	-2%	-10%
Scope 3 Total	58,621	47,659	40,721	43,338	58,208	23%	17%	-6%	-26%	1%

¹Carbon footprint metrics for 2019, 2020, 2021, 2022, and 2023 verified with limited assurance. They may differ from those previously published due to retroactive recalculations made in accordance with the GHG Protocol. (Greenhouse Gas Protocol A Corporate Accounting and Reporting Standard REVISED EDITION, World Resources Institute, Copyright © World Resources Institute and World Business Council for Sustainable Development, March 2004, Page 3537).
<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf#page=37>

²MB or market-based: A method to quantify the scope 2 GHG emissions of a reporter based on GHG emissions emitted by the generator from which the reporter contractually purchases electricity bundled with contractual instruments, or contractual instruments on their own.
 LB or location-based: A method to quantify scope 2 GHG emissions based on average energy generation emission factors for defined geographic locations, including local, subnational, or national boundaries.
 Source: GHG Protocol Scope 2 Guidance, An amendment to the GHG Protocol Corporate Standard, World Resource Institute, 2015, Page 26. Scope 2 Guidance_Final_Sept26.pdf

https://ghgprotocol.org/sites/default/files/standards/Scope2%20Guidance_Final_Sept26.pdf

About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 50 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process. To learn more, please visit www.msci.com.

The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at: <https://www.msci.com/index-regulation>.

Notice and Disclaimer

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. or its subsidiaries (collectively, "MSCI"), or MSCI's licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the "Information Providers") and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or disseminated in whole or in part without prior written permission from MSCI. All rights in the Information are reserved by MSCI and/or its Information Providers.

The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.

Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index.

MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.

Index returns do not represent the results of actual trading of investable assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.

The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.

Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.

Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research LLC and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.

MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.'s company filings on the Investor Relations section of www.msci.com.

MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body.

Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P Global Market Intelligence. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and S&P Global Market Intelligence.

Privacy notice: For information about how MSCI collects and uses personal data, please refer to our Privacy Notice at <https://www.msci.com/privacy-pledge>.