



FY2023 Basis of Preparation for ESG Reporting

31 March 2023

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1. Introduction

The purpose of this document is to set out the basis of preparation and assurance for the key environmental, social and governance (ESG) metrics that have been included in the scope of PwC's limited assurance engagement over selected metrics within Macquarie Group Limited's (MGL) FY2023 ESG disclosures. MGL's FY2023 ESG disclosures are those contained within MGL's FY2023 ESG Report and FY2023 ESG Dataset, located at www.macquarie.com/esg.

The metrics in scope of assurance are listed in [Section 2](#) and PwC's independent assurance report can be found in [Appendix 3](#).

The reporting boundaries, metric definitions, and measurement methodologies are set out in [Section 3](#).

2. Metrics covered

Energy consumption and emissions in our own business operations

1. Energy consumption and Scope 1 and Scope 2 emissions for the year ended 31 March 2023.
2. Scope 3 operational value chain emissions (categories 1-6 + 8) for the year ended 31 March 2023.
3. Management's assertion that carbon offsets have been purchased and retired for the 2023 reporting period representing a quantity of greenhouse emissions offset greater than the sum of Scope 1, Scope 2 and Scope 3 (category 6) operational value chain emissions.
4. Percentage of global electricity sourced from renewable energy in line with our RE100 commitment, for the year ended 31 March 2023.

Financing activities

5. GW of green energy assets by development stage (in development, in construction and currently operating) as at 31 March 2023 measured using 100% of generating capacity for assets managed / owned (including partially) by Macquarie.
6. \$Ab invested, committed or arranged in green energy assets for the year ended 31 March 2023.
7. \$Ab of private market green energy assets under management (AUM) as at 31 March 2023.
8. Number of reviews completed under the Environmental and Social Risk (ESR) Policy in the year to 31 March 2023.

3. Methodologies

3.1 Energy consumption and Scope 1 and Scope 2 emissions for the year ended 31 March 2023

3.1.1 Coverage of energy consumption and Scope 1 and 2 greenhouse gas (GHG) emissions

Corporate offices and data centres

Macquarie's corporate offices and data centres are defined as:

- Offices leased by MGL and all its subsidiaries, which are also occupied by Macquarie people and have a Net Usable Area (i.e., the area that can be fitted out by the tenant) of greater than 100m².
- Data centres around the world where Macquarie has oversight of electricity usage and pays for this usage.
- New offices from business acquisitions from the month the acquisition is completed.

The following exclusions have been applied in determining the reporting boundary for corporate offices and data centres:

- Offices or buildings that are owned or managed by an MGL entity but are not tenanted by Macquarie people.
- Serviced offices, data centres and cloud computing services used by MGL where MGL has no oversight of the energy usage of the office, data centre and cloud computing services. Energy costs for serviced offices are typically included as part of a service fee.
- Joint venture offices. Joint venture offices are defined as offices where Macquarie people may be located as part of a joint venture business activity but where Macquarie has limited ability to influence the operation of these offices and does not have oversight of the data required to calculate electricity consumption and GHG emissions.
- Properties associated with businesses acquired by Macquarie that are operationally segregated subsidiaries (OSSs - refer to [Appendix 1](#) for Glossary) are excluded until such time as the associated lease obligations are renewed by Macquarie post acquisition.

Base buildings

Macquarie's base buildings are defined as offices or buildings where Macquarie owns and occupies the building. Base building energy refers to the energy required to operate the mechanical plant, lifts, and lighting in the lobby and other communal areas.

The following exclusions have been applied in determining the reporting boundary for base buildings:

- Energy use in this category excludes tenanted energy use in Macquarie owned and operated buildings.
- OSSs (refer to [Appendix 1](#) for Glossary).

3.1.2 Process description of energy consumption and Scope 1 and 2 GHG emissions

Scope 1 emissions: Direct emissions associated with diesel, natural gas, and refrigerant usage

Scope 1 emissions for the baseline reporting period were estimated by multiplying energy usage by relevant emissions factors from government or international sources.

Usage has been sourced directly from meter data, supplier or landlord invoices, where available. Approximately 82% of Scope 1 emissions data for the reporting period was obtained directly from actual meter usage data, supplier, or landlord invoices.

Where no tank meter readings were available, diesel usage was estimated based on engine performance data from diesel generator data sheets. For natural gas, where no invoiced data was available, usage was estimated based on usage in comparable offices. For refrigerant gases, usage was estimated based on refrigerant charge and leakage rates in accordance with the [National Greenhouse and Energy Reporting \(NGER\) \(Measurement\) Determination 2008](#).

Emission factors outlined in [Appendix 2](#) have then been applied to determine the equivalent direct emissions associated with diesel, natural gas and refrigerants consumed (Scope 1 emissions).

Scope 2 emissions: Indirect emissions associated with total electricity consumed

Approximately 82% of the electricity usage data for the baseline reporting period was obtained directly from the actual tenancy or building data, where available, and the remaining 18% of energy consumption was estimated by one of the following prioritised data methodologies:

1. To account for seasonal variances, estimates are derived as follows:
 - Where a clear seasonal trend exists from previous reporting periods, the estimate is based on an extrapolation of these trends and adjusted for any year-on-year overall movements.
 - Where no clear seasonal trend exists from previous reporting periods, the actual figure for the same period in the prior year is used as the estimate.
2. Where invoiced data existed for part of the reporting period, the average daily invoiced electricity consumed for that part of the reporting period is determined and extrapolated out to the remainder of the reporting period. This method is used when some of the invoiced data within the reporting period is unavailable from the energy providers.
3. Where no invoiced data was available for a particular office, the electricity consumed for that office is estimated based on the Net Lettable Area of the office and the average electricity consumption per square metre of other offices in the same region.

Emission factors outlined in [Appendix 2](#) have then been applied to determine the equivalent indirect emissions associated with electricity consumed (Scope 2 emissions).

3.2 Scope 3 operational value chain emissions (categories 1-6 + 8) for the year ended 31 March 2023

3.2.1 Coverage of Scope 3 GHG emissions of our own business operations

Category 1: Purchased goods and services (including capital goods, upstream leased assets, and upstream transportation and distribution)

This category covers emissions arising from the procurement of goods and services (including capital goods, upstream leased assets and upstream transportation and distribution) that are paid for via Macquarie's procurement system, and are categorised according to Macquarie's internal taxonomy codes. This excludes transactions not associated with the purchase of goods and services and capital goods where identifiable e.g., intra-company and payroll payments, community/charitable donations, and taxation-related spend.

Category 2: Capital goods

Given the capital goods spend data has been captured in the calculation methodology for Category 1, emissions related to Category 2 are not reported separately.

Category 3: Fuel- and energy-related activities

This category covers emissions arising from the extraction, production and transportation of fuels and energy consumed by Macquarie (being electricity, steam, heating and cooling), including transmission and distribution (T&D) losses. Only electricity is included in the calculation as other fuels and energy are not material. It includes emissions from Macquarie's global corporate offices, data centres and base buildings (see [Section 3.1.1](#) for definition).

Category 4: Upstream transportation and distribution

Given the upstream transportation and distribution spend data has been captured in the calculation methodology for Category 1, emissions related to Category 4 are not reported separately.

Category 5: Waste generated in operations

This category covers emissions arising from the disposal and treatment of waste generated in operations.

Exclusions:

- e-waste
- construction waste
- effluents and wastewater.

Category 6: Business travel

The primary source of business-related travel emissions data is Macquarie's exclusive global corporate credit card provider, American Express, and includes air travel (by cabin flown), hotels, and ground transport. Additionally, our corporate card travel emissions data includes food and beverage spend for meals while travelling, as well as other forms of food and beverage spend that may not be directly related to business travel (e.g., staff or client entertainment).

Category 8: Upstream leased assets

Given the upstream leased assets spend data has been captured in the calculation methodology for Category 1, emissions related to Category 8 are not reported separately.

3.2.2 Process description

Category 1: Purchased goods and services (including capital goods, upstream leased assets, and upstream transportation and distribution)

The "spend-based" method (as per the GHG Protocol Scope 3 Guidance, refer to [Appendix 2](#) for GHG emissions references) was used to calculate these emissions, with industry-average emissions factors applied based on the economic value of the goods and services and capital goods (upstream leased assets and upstream transportation and distribution) processed via Macquarie's procurement system.

Spend data was extracted from Macquarie's procurement system, which was categorised according to Macquarie's internal taxonomy codes and uploaded to an emissions calculation platform where emissions factors were applied. This platform applies the United States Environmentally-Extended Input-Output (USEEIO) dataset that estimates cradle-to-gate GHG emissions for each given industry or product category (refer to [Appendix 2](#) for GHG emissions references).

The corresponding USEEIO emissions factors were mapped against Macquarie's internal taxonomy and then applied to calculate overall emissions for this category. A weighted average emissions factor was applied for any uncategorised spend.

The latest USEEIO release provides data through to 2018 with emissions factors denominated in \$US. These were translated to the relevant period (i.e., to Macquarie FY2023) using relative price levels and then to the relevant currency (i.e., from \$US to \$A) using the period average exchange rate.

Emissions = \sum Spend by category \times converted emissions factor (E_f) by category

Category 2: Capital Goods

Capital goods are included under Category 1, as described above.

Category 3: Fuel- and energy-related activities

As discussed above, Category 3 covers emissions arising from the extraction, production and transportation of fuels and energy consumed by Macquarie (being electricity, steam, heating and cooling), including transmission and distribution (T&D) losses. Usage is based on invoice data from energy retailers or landlords, where available, or estimated based on comparable offices. For energy consumed in Australia, state-level emissions factors were used, based on the National Greenhouse Accounts Factors published by the Department of Climate Change, Energy, the Environment and Water (2021 & 2022). For energy consumed outside of Australia, emissions factors by country were used based on the UK Government GHG Conversion Factors for Company Reporting, DEFRA Emissions Factors (2021) (refer to [Appendix 2](#) for GHG emissions references).

$Emissions = \sum \text{Quantity of electricity purchased by state/country} \times E_f \text{ by state/country}$

Category 4: Upstream transportation and distribution

Upstream transportation and distribution are included under Category 1, as described above.

Category 5: Waste generated in operations

Data for waste generated in operations has been sourced directly from landlord or cleaning provider reports. Due to limited data availability, tonnes / FTE was calculated for sites where data was available, (Sydney: No.1 Martin Place, 50 Martin Place, 1 Shelley St and London: Ropemaker) representing approximately 50% of our global people. This was then extrapolated out to the remaining population of our people to estimate global emissions for waste generated in operations on a per capita basis. The headcount number excludes Macquarie people on extended leave, people at a non-Macquarie office, casual people and non-executive directors. Emissions factors are based on the UK Government GHG Conversion Factors for Company Reporting, DEFRA Emissions Factors (2022) (refer to [Appendix 2](#) for GHG emissions references).

Category 6: Business travel

Business travel emissions are calculated by American Express based on spend on corporate cards.

American Express utilises emissions factors for the relevant reporting period, based on government or international sources, to determine the equivalent indirect emissions associated with air, hotel, ground transport, and food and beverage spend and associated activity data.

American Express estimates GHG emissions (tonnes CO₂e) as follows:

- **Air:** emission calculations are based on distance per flight segment or leg, with the emissions factor determined by class of ticket and flight haul type, with reference to spend and conversion factors (2022) specified by the Department of Environment, Food and Rural Affairs (DEFRA), Government of the United Kingdom.
 - Emissions = $E_f \times \text{Distance}$
- **Hotel:** emission calculations are based on total hotel spend at a particular hotel and the average daily rate per Business Travel News's Corporate Travel Index to estimate room nights based on location, with reference to Smith Travel Research's database to identify the class of service for each hotel. The emissions factor is determined by class of hotel service and property location per the Cornell Hotel Sustainability Benchmark Index (2021).
 - Emissions = $E_f \times \text{Estimated Room Nights}$
- **Ground:** emission calculations are based on spend on Taxis, Car Rentals and Ride Shares, where the average distance travelled is determined with reference to Numbeo's report of Prices by Country of Taxi 1km (Normal Tariff) (Transportation) (2023). The emissions factor is based on car type, as determined by American Express using internally developed codes and DEFRA conversion factors (2022).
 - Emissions = $E_f \times \text{Distance}$
- **Food and Beverage:** emissions calculations are based on spend by restaurant category and United States EPA factors (2023). Restaurant category is determined by both industry codes and American Express merchant classifications.
 - Emissions = $E_f \times \text{Spend}$

Category 8: Upstream leased assets

Upstream leased assets are included under Category 1, as described above.

3.3 Management's assertion that carbon offsets have been purchased and retired for the 2023 reporting period representing a quantity of greenhouse emissions offset greater than the sum of Scope 1, Scope 2 and Scope 3 (category 6) operational value chain emissions

In FY2023, to meet the existing carbon offsetting commitment within our 2025 Sustainability Plan which covers Scope 1, Scope 2 and Scope 3 Category 6 (business travel) emissions, Macquarie will purchase and retire a portfolio of Australian Carbon Credit Units and other voluntary carbon offsets that meet the Verified Carbon Standard by 30 June 2023. The projects were selected based on quality and verifiable emissions reductions and we engaged an independent third party to assist with the evaluation and selection of the projects.

3.4 Percentage of global electricity sourced from renewable energy in line with our RE100 commitment for the year ended 31 March 2023

Where electricity is sourced from 100% renewable sources (including the purchase and retirement of renewable energy certificates), emissions from these sources are considered as zero and classified as market-based emissions. Where renewable energy certificates are purchased, the associated Scope 2 emissions reductions are calculated based on the emissions factor for the location of the renewable generation, with the resulting emissions reduction applied to our global operations.

3.5 GW of green energy assets by development stage (in development, in construction and currently operating) as at 31 March 2023 measured using 100% of generating capacity for assets managed / owned (including partially) by Macquarie

3.5.1 Coverage

This metric covers MGL and its subsidiaries, including OSSs, and Macquarie Asset Management's (MAM) Private Markets portfolio companies.

3.5.2 Process description

GW (Gigawatts) of *green energy assets* (refer to [Appendix 1](#) for Glossary) represent the total energy generation capacity of the green energy assets on our balance sheet or under Macquarie management at 31 March 2023. It excludes lending and private credit funds. The number of GW includes the 100% generation capacity of each asset, not the proportion owned/managed by Macquarie.

Energy generation capacity is disclosed by three stages in the project life cycle; "in development", "under construction" or "currently operating".

Assets are defined to be "in development" if Macquarie or any portfolio company of a Macquarie managed fund has:

- (i) internally approved the commitment to allocate a meaningful amount of resources (people, funding) to assessing project feasibility (or a portfolio of projects), or made a partnering commitment to pursue a project/ portfolio that is not yet "under construction"; or
- (ii) obtained site control for a particular project. "In development" excludes those assets that are no longer active at the reporting date, as well as assets "under construction" or assets that are "currently operating".

Assets are defined to be "under construction" when a project is approved through a Final Investment Decision (FID). FID is the point in the capital project planning process when the decision is taken to make major financial commitments, which will provide the funding required to commence and complete the construction of the project to create an operational asset.

Assets are defined to be "currently operating" when a project has reached Commercial Operation Date (COD). COD is the point in time when the project is fully commissioned, placed into service, and all relevant parties are satisfied that it can operate as intended.

3.6 \$Ab invested, committed or arranged in green energy assets for the year ended 31 March 2023

3.6.1 Coverage

This metric covers MGL and its subsidiaries, including OSSs, and MAM's Private Markets portfolio companies.

3.6.2 Process Description

The amount of "\$Ab invested, committed or arranged in *green energy assets* (refer to [Appendix 1](#) for Glossary) is made up of:

- Lending and equity investment made by Macquarie or MAM Private Markets Funds in green energy assets during the specified period;
- Lending and equity committed to by Macquarie or MAM Private Markets Funds for green energy assets during the specified period;
- Financing arranged by Macquarie for green energy assets during the specified period. This comprises of:
 - Financing arranged within MAM's Private Credit funds;
 - Financing arranged by MAM's Green Investment Group (GIG) where GIG has i) invested equity into the project as a joint lead or lead sponsor or as part of a consortium, and ii) played an instrumental role in raising additional third-party financing for the project. If both criteria are met, 100% of the "arranged" third-party funding is included.
- Electric vehicle car finance (loans and novated leases). It excludes other short-term funding such as trading positions.

For our Banking and Financial Services (BFS) Car Loans business and Commodities and Global Markets (CGM) Asset Finance business, funding is only included when it has been drawn. All other investments are considered "invested" or "arranged" at the point when a legally binding obligation has been entered into. They are considered "committed" when Macquarie has internally approved the commitment.

3.7 \$Ab of private market green energy assets under management (AUM) as at 31 March 2023

3.7.1 Coverage

This metric covers portfolio businesses within MAM's Private Markets equity funds.

3.7.2 Process description

Private market AUM are calculated as the proportional ownership interest in the underlying assets of funds and mandated assets that Macquarie actively manages or advises for the purpose of wealth creation, adjusted to exclude cross-holdings in funds and to reflect Macquarie's proportional ownership interest of the fund manager. Private Markets AUM includes equity to deploy.

Only the value of assets which satisfy the definition of green energy assets (refer to [Appendix 1](#) for Glossary) have been included in the balance. Assets which are a combination of green energy and other assets are excluded in their entirety where it is not possible to reliably distinguish the value attributed to the green energy assets from the value attributed to the other assets. \$Ab of private market green energy assets under management as at 31 March 2023 are based on 31 December 2022 asset valuations, in line with common practice, and consistent with those communicated to investors through periodic fund reporting.

3.8 Number of reviews completed under the Environmental and Social Risk (ESR) Policy in the year to 31 March 2023

Environmental and social risks are managed through the implementation of the [Environmental and Social Risk \(ESR\) Policy](#).

Macquarie's ESR Policy describes our approach to ESR management when onboarding or reviewing clients and other counterparties and across a broad range of transactions including equity investments, financing, leasing and advisory mandates. The ESR Policy provides a robust process to assess, manage, mitigate, monitor and report environmental and social risks and takes a precautionary approach to ESR issues including labour and employment practices, climate change, human rights, resource efficiency, pollution prevention, biodiversity and cultural heritage. Based on international guidelines, including the International Finance Corporation Performance Standards, the ESR Policy provides escalated decision-making and approval processes, alongside the credit approval process, for material environmental and social risks. Material environmental and social risks are determined by the nature, size and complexity of the transaction, as well as the jurisdiction, sector, client and project-level risk.

3.8.1 Coverage

The ESR Policy applies to MGL and its subsidiaries.

MAM's Environmental, Social and Governance (ESG) related policies, which set out its approach to ESG risk management, align with the Macquarie-wide ESR Policy and are adapted to MAM's business. MAM reports at least semi-annually to Macquarie's Boards on compliance with the Macquarie ESR Policy and other Macquarie requirements.

3.8.2 Process description

The number of reviews completed under the ESR Policy in FY2023 is the number of transactions, advisory mandates and counterparties where a review was completed between 1 April 2022 and 31 March 2023 in line with Macquarie's ESR Policy.

A review is considered completed if:

- an opinion was issued by the RMG ESR team; or
- a transaction was assessed using Macquarie's ESR toolkit and found to be of low environmental and social risk, not requiring a referral to the ESR team.

Transactions are defined as equity and fund investments, financing / lending, leasing, physical commodities trading, capital markets with underwriting, and environmental and social products.

Advisory mandates consist of:

- Mandates where Macquarie earns revenue through its role as advisor on corporate transactions, including Mergers & Acquisitions, divestments, takeover responses, debt and equity financing, capital management and restructuring
- Equity and Debt capital market transactions without underwriting
- Introducer roles and similar structures.

Counterparty reviews are defined as standalone counterparty ESR reviews i.e., not being part of a transaction or advisory mandate but as part of periodic risk assessments on counterparties that meet ESR Policy escalation requirements. These reviews occur as part of initial client onboarding, annual credit reviews, periodic "know your client" refreshes and ad-hoc reviews of negative news alerts.

Sector split

Sectors are chosen from a pre-determined RMG ESR sector list and selected based on the sector of risk. This is the sector from the mandatory and reputation escalation lists or medium and high-risk sectors within Macquarie's ESR Policy which triggered the referral to the RMG ESR team.

If the referral was triggered for reasons unrelated to the sector list (e.g., credible allegations or evidence of Human Rights breaches or significant impacts on environmentally sensitive or protected areas), the sector is determined as that from which the majority of the revenue generated by the counterparty or entity that is subject of the review is derived.

Appendix 1: Glossary

Green Energy Assets

Macquarie's **definition of green energy assets** for the purpose of this Report, is made up of:

- Established renewable energy technologies such as solar, wind, hydro or geothermal energy
- Emerging green energy technologies including green hydrogen, carbon capture, utilisation and storage (CCUS) and renewable natural gas
- Waste-to-energy and bioenergy assets
- Energy efficiency technologies such as smart meters, energy efficient lighting, biomass boilers and ground and air source heat pumps
- Low carbon transport, including electric vehicles
- Supporting infrastructure for the above assets, e.g., battery storage and electric vehicle charging infrastructure.

Macquarie people

Total global workforce excluding people employed in OSSs.

Operationally segregated subsidiaries (OSSs)

The operations of some controlled subsidiaries are “segregated” from the rest of Macquarie, and a tailored Risk Management Framework may be adopted.

Scope definitions¹

- **Scope 1 emissions:** direct emissions from owned or controlled sources.
- **Scope 2 emissions:** indirect emissions from the generation of purchased energy.
- **Scope 3 emissions:** all indirect emissions (not include in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

RE100

A global corporate renewable energy initiative which brings together businesses that source the equivalent of 100% renewable electricity for their operations.

¹ Greenhouse Gas Protocol – FAQ.

Appendix 2: GHG emissions references

Table 1 - GHG emissions references

The following documents have been referenced in calculating Scope 1, Scope 2 and Scope 3 GHG emissions (tCO₂e):

Component	Reference documents
Australia Electricity, Natural Gas, Refrigerants & Diesel	Australian Government Clean Energy Regulator (CER): <i>National Greenhouse and Energy Reporting (Measurement) Determination 2008</i> and subsequent amendments for the calculation of greenhouse gas (GHG) emissions (2021 & 2022)
New Zealand Electricity	NZ Ministry for the Environment: <i>Measuring and reporting greenhouse gas emissions: guide for organisations</i> (2022)
Taiwan, Japan & Hong Kong Electricity	Taiwan – Taiwan Bureau of Energy (2021) Japan – Japan Ministry of Environment (2021) Hong Kong – CLP and HKE Annual reports (2021)
United Kingdom Electricity & Natural Gas	Department for Environment Food and Rural Affairs (DEFRA): <i>Government Greenhouse Gas Conversion Factors for Company Reporting: Methodology Paper for Emission Factors</i> (2022)
United States Electricity Natural Gas & Diesel	- United States Environmental Protections Agency (USEPA): Emissions & Generation Resource Integrated Database (eGRID) (2020) published Feb 2022 - Australian Government Clean Energy Regulator (CER): <i>National Greenhouse and Energy Reporting (Measurement) Determination 2008</i> and subsequent amendments for the calculation of greenhouse gas (GHG) emissions. (2021 & 2022)
Canada Electricity	The Climate Registry Information System (CRIS) (2022)
Brazil, Chile, UAE, China, India, Indonesia, Mexico, Philippines, Singapore, South Korea and Thailand Electricity	Institute for Global Environmental Strategies (IGES): <i>IGES GHG Emissions Database</i> (2022)
Austria, France, Germany, Ireland, Luxembourg, Netherlands, Spain & Switzerland Electricity	Association of Issuing Bodies (AIB): <i>European Residual Mixes</i> (2021)
Malaysia Electricity Diesel	- Institute for Global Environmental Strategies (IGES): <i>IGES GHG Emissions Data</i> (2022) - Australian Government Clean Energy Regulator (CER): <i>National Greenhouse and Energy Reporting (Measurement) Determination 2008</i> and subsequent amendments for the calculation of greenhouse gas (GHG) emissions. (2021 & 2022)

Component	Reference documents
Scope 3 Category 1: Purchased goods and services (including capital goods, upstream leased assets, and upstream transportation and distribution)	<ul style="list-style-type: none"> - World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD): <i>GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (v1): Supplement to the Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2013)</i> and - GHG protocol Technical Guidance on the EEIO model via GHG Protocol Scope 3 Calculation Guidance and associated Life Cycle Database reference of 3rd Party Databases - United States Environmental Protections Agency (USEPA): United States Environmentally Extended Input Output (USEEIO) dataset that estimates cradle to gate GHG emissions for each given industry or product category (2018)
Scope 3 Category 3: Fuel and energy-related activities	<ul style="list-style-type: none"> - Australia State Based: National Greenhouse Accounts Factors published by the Department of Climate Change, Energy, the Environment and Water (2021 & 2022) - Rest of world: Department for Environment Food and Rural Affairs (DEFRA): <i>UK Government GHG Conversion Factors for Company Reporting (2021)</i>
Scope Category 5: Waste in operations	<ul style="list-style-type: none"> - Department for Environment Food and Rural Affairs (DEFRA): Emissions factors are based on the <i>UK Government GHG Conversion Factors for Company Reporting (2022)</i>
Scope 3 Category 6: Business travel	<ul style="list-style-type: none"> - Department for Environment Food and Rural Affairs (DEFRA): <i>Government Greenhouse Gas Conversion Factors for Company Reporting: Methodology Paper for Emission Factors (2022)</i>
Air & Ground	<ul style="list-style-type: none"> - The Business Travel News (BTN) Corporate Travel Index and Smith Travel Research (STR): <i>Cornell Hotel Sustainability Benchmarking Index (CHSB Index) (2021)</i>
Hotel	
Food & Beverage	<ul style="list-style-type: none"> - United States Environment Protection Agency (USEPA) Office of Research and Development: <i>Supply Chain Greenhouse Gas Emission Factors for US Industries and Commodities</i>

Scope 2 emissions factors used for Australian and The Americas offices, and Scope 3 emissions factors for all business travel, include greenhouse gases in addition to carbon dioxide and are expressed in carbon dioxide equivalents (CO₂e) as stipulated within the associated reference documents. Scope 2 emission factors used for the United Kingdom and remaining office locations only comprise carbon dioxide emissions (CO₂) as stipulated within the reference documents. The jurisdictional variance in approaches to Scope 2 methodology had no material effect on the outcome.

Appendix 3: Independent assurance report over selected environmental, social and governance data reported by Macquarie Group Limited for the 12 months ended 31 March 2023



To the Board of Directors of Macquarie Group Limited

Independent assurance report over selected environmental, social and governance data reported by Macquarie Group Limited for the 12 months ended 31 March 2023.

Scope

In accordance with the terms of our engagement letter dated 8 March 2023, we were engaged by Macquarie Group Limited (**MGL** or **Macquarie**) to perform an independent limited assurance engagement in respect of selected subject matter (the **Subject Matter**) reported within the Environmental Social and Governance (ESG) Section of MGL's Annual Report and the *FY2023 ESG Dataset* document located at www.macquarie.com/esg for the 12 months ended 31 March 2023 (**the Period**). The Subject Matter is as follows:

- a) total electricity consumed from MGL's corporate offices, data centres and base building consumption (where MGL owns and occupies the building) around the world (40.5 GWh as disclosed on page 62 of the Report)
- b) total direct emissions from refrigerants, natural gas and diesel usage (Scope 1) from MGL's corporate offices and base building consumption (where MGL owns and occupies the building) around the world (411 tCO₂e as disclosed on page 62 of the Report)
- c) total indirect emissions from electricity usage (Scope 2) calculated using the market-based method from MGL's corporate offices, data centres and base building consumption (where MGL owns and occupies the building) around the world (0 tCO₂e as disclosed on page 62 of the Report)
- d) Percentage of global electricity consumption sourced from renewable sources through a combination of green energy and energy attribute certificates (100% as disclosed on page 62 of the Report)
- e) Management's assertion that carbon offsets have been purchased and retired for the 2023 reporting period representing a quantity of greenhouse emissions offset greater than the sum of b), c) and Category 6: Business travel within f) below (as disclosed on page 63 of the Report)
- f) Scope 3 Operational value chain categories (tCO₂e):
 - Category 1: Purchased goods & services (including Category 2, 4 & 8) (155,097 tCO₂e as disclosed on page 63 of the Report)
 - Category 3: Fuel and energy related activities (3,862 tCO₂e as disclosed on page 63 of the Report)
 - Category 5: Waste generated in operations (187 tCO₂e as disclosed on page 63 of the Report)
 - Category 6: Business travel (56,872 tCO₂e as disclosed on page 63 of the Report)
- g) GW of green energy assets in development as at 31 March 2023 (95GW as disclosed on page 54 & 57 of the Report)
- h) GW of green energy assets under construction as at 31 March 2023 (2GW as disclosed on page 54 & 57 of the Report)
- i) GW of green energy assets currently operating as at 31 March 2023 (14GW as disclosed on page 48, 54 & 57 of the Report)
- j) \$billion invested, committed, or arranged in green energy assets (\$2.2billion as disclosed on page 48 of the Report)
- k) number of reviews completed under the Environmental and Social Risk (ESR) policy (1,094 reviews as disclosed on page 48 & 52 of the Report)



- l) the calculation of private market green energy assets under management (AuM) as at 31 March 2023 (\$25 billion as disclosed on page 60 of the Report)

The criteria against which we assessed the Subject Matter (the **Criteria**) are the definitions and approaches presented in the *FY2023 Basis of Preparation for ESG Reporting* document located at www.macquarie.com/esg, as at 5 May 2023.

MGL's responsibilities

The Management of MGL is responsible for the preparation of the Subject Matter in accordance with the Criteria. This responsibility includes:

- determining appropriate reporting topics and selecting or establishing suitable criteria for measuring, evaluating and preparing the underlying Subject Matter Information;
- ensuring that those criteria are relevant and appropriate to MGL and the intended users;
- designing, implementing and maintaining systems, processes and internal controls over information relevant to the evaluation or measurement of the Subject Matter Information, which is free from material misstatement, whether due to fraud or error, against the Criteria.

Our Independence and quality management

We have complied with the ethical requirements of the Accounting Professional and Ethical Standard Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* relevant to assurance engagements, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies Australian Standard on Quality Management ASQM 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Reports and Other Financial Information, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our responsibilities

Our responsibility is to express a limited assurance conclusion based on the procedures we have performed and the evidence we have obtained.

Our engagement has been conducted in accordance with the Australian Standard on Assurance Engagements (ASAE 3000) *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* and the Australian Standard on Assurance Engagements (ASAE 3410) *Assurance Engagements on Greenhouse Gas Statements*. That standard requires that we plan and perform this engagement to obtain limited assurance about whether anything has come to our attention to indicate that the Subject Matter has not been prepared, in all material respects, in accordance with the Criteria, for the Period. The procedures we performed were based on our professional judgement and included:

- Enquiring of relevant management of MGL regarding the processes and controls for capturing, collating, calculating and reporting the subject matter, and evaluating the design and operational effectiveness of selected controls;
- Calculating the arithmetic accuracy of a sample of calculations of the Subject Matter;



- Assessing the appropriateness of the greenhouse gas emission factors and methodologies applied in calculating the Subject Matter;
- Assessing the appropriateness of estimates and assumptions applied by management in the preparation of the Subject Matter;
- Agreeing the Subject Matter to underlying data sources and calculations;
- Undertaking analytical procedures over the performance data utilised within the calculations and preparation of the Subject Matter;
- Agreeing a sample of external data used in the estimation and attribution of operational Scope 3 emissions to third party sources;
- Performing procedures over the compilation of the data used in calculating the metric disclosed for the GW of green energy assets as at 31 March 2023 measured using 100% of generating capacity for assets managed / owned (including partially) by Macquarie.
- Testing the calculation of \$A billion invested, committed or arranged in green energy assets for the year end 31 March 23.
- Agreeing the number of reviews completed under the Environmental and Social Risk (ESR) policy back to underlying sources; and
- Testing the calculation of Macquarie's proportion of ownership of private market green energy AuM and assessing the application of Macquarie's procedure for attributing a 'green' classification to the AuM. Our procedures over this calculation did not extend to assuring the total asset value. This information was corroborated to external unaudited sources.

The procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Use of report

We were engaged by the Directors of MGL on behalf of MGL to prepare this independent assurance report having regard to the criteria specified by MGL and set out in this report. This report was prepared solely for MGL to assist the Directors in responding to their governance responsibilities by obtaining an independent assurance report in connection with the selected subject matter.

We accept no duty, responsibility or liability to anyone other than MGL in connection with this report or to MGL for the consequences of using or relying on it for a purpose other than that referred to above. We make no representation concerning the appropriateness of this report for anyone other than MGL if anyone other than MGL chooses to use or rely on it they do so at their own risk.

This disclaimer applies to the maximum extent permitted by law and, without limitation, to liability arising in negligence or under statute and even if we consent to anyone other than MGL receiving or using this report.

Inherent limitations – Assurance engagements

Because of the inherent limitations of any assurance engagement due to the selective testing of the



information examined, it is possible that fraud, error or non-compliance may occur and not be detected. A limited assurance engagement is not designed to detect all instances of non-compliance of the Subject Matter with the Criteria, as it is limited primarily to making enquiries, of management, and applying analytical procedures. The limited assurance conclusion expressed in this report has been formed on the above basis.

Inherent limitations - Subject Matter

Non-financial information is subject to more inherent limitations than financial information, given the more qualitative characteristics of the subject matter and the methods used for determining conformance. The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measurement techniques and can affect comparability between entities over time.

It is acknowledged by stakeholders globally, including regulators, that there are significant limitations in the availability and quality of ESG data from third parties. The subject matter may include proxy data or be sourced from unaudited third party data. This is the case for the calculation of “the private market green energy assets under management (AuM) as at 31 March 2023” whereby we have not audited the underlying asset values used to derive the metric. The values have been agreed to underlying third party fund information.

It is anticipated that the principles and methodologies used to measure and report the Subject Matter will develop over time and may be subject to change in line with market practice and regulation, impacting comparability year-on-year. The limited assurance conclusion expressed in this report has been formed on the above basis.

This report relates to Subject Matter contained in the Environmental, Social and Governance Section of MGL’s Annual Report and the *FY2023 ESG Dataset* document located at www.macquarie.com/esg for the 12 months ended 31 March 2023. The Management of MGL is responsible for the integrity of MGL’s website. We have not been engaged to report on the integrity of MGL’s website. We do not accept responsibility for any changes that may have occurred to the reported subject matter information or criteria since they were initially presented on the website. This report refers only to the Subject Matter described above. It does not provide an opinion on any other information which may have been hyperlinked to or from these statements.

Conclusion

Based on the procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Subject Matter has not been prepared, in all material respects, in accordance with the Criteria for the period 1 April 2022 to 31 March 2023.

PricewaterhouseCoopers

PricewaterhouseCoopers

C. Mara

Caroline Mara
Partner

Sydney
5 May 2023