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# Macquarie Group Limited

## *FY2022/1H2023 Climate Finance Assessment*

*Fifth in CEF's climate finance analyses series of Australia's Big 5 banks – see FY2022 analyses published for ANZ, NAB, Westpac, CBA – we review the entirety of Macquarie Group's climate impact across the Group's four business lines, Macquarie Asset Management (MAM), Macquarie Capital (MacCap), Banking and Financial Services (BFS), and Commodities and Global Markets (CGM).*

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## Climate highlights and summary

***Macquarie Group level insights*[1]**

- CEO Shemara Wikramanayake's leadership shines above the rest, as the only Big 5 Exec **visibly advocating for the government to improve policy** to facilitate green projects. This combined with Macquarie's leadership in **climate capabilities across renewables, batteries, grid modernisation, commodities, power purchase agreements** etc, means the Big 4 have a way to go to catch up with Macquarie.
- The Group invested, committed and arranged **$2.3bn for green energy assets in FY2022**, with a cumulative total of **$32bn over five years**, making it the largest investor in green energy of the Big 5.
- Macquarie reports **$6.40 renewables to $1 conventional energy** investment ratio, but it's unclear how this ratio is achieved. CEF will seek to clarify with Macquarie prior to the FY2023 disclosures in May.
- A **~107GW pipeline of green energy investments** exists on Macquarie's balance sheet or under Macquarie management (inclusive of GIG's 85GW portfolio). Macquarie **more than doubled its green energy capacity pipeline** in the first half of FY2023, with 60GW added between 31 Mar and 30 Sep 2022.
- 2030 financed emission reduction targets exist for:
    - **Coal** – 100% reduction by 2024, ahead of the Big 4
    - **Oil and gas** – 10-15% reduction from FY2020 levels, not comparable due to differences in methodology across the sector
    - **Motor vehicles** – 34% reduction from FY2020 levels, only Big 5 to establish a target for this sector, indicative of its materiality to Macquarie's loanbook
- A UK pilot **green re-skilling program,** launched by the Macquarie Foundation and GIG, **should be urgently replicated for Australia** given the >12k new jobs required for our renewable energy industry, and three times that to become a hydrogen superpower.

***Macquarie Asset Management (MAM)***

- MAM committed to **net zero across its portfolio by 2040** with 45% of AuM (in its infrastructure, agriculture and real estate portfolios) currently committed to being managed under the Net Zero Asset Managers initiative (NZAM). A caveat states that **by 2030 the Group aims to establish targets for sectors that "currently don't have a pathway"**, i.e. carbon intensive sectors such as oil and gas, steel, cement sectors.
- The recent integration of Macquarie's Green Investment Group into MAM will also assist the Group in achieving its ambitious 2040 net zero target across the portfolio.
- MAM reports **$24bn AuM in renewable energy** as at FY2022, just 3% of total AuM. It's a good start in the energy transition, but for a group that pitches itself as a world-leader, we expect momentum to increase.
- MAM invests in **89 expansionary coal, oil and gas developers** worth $7.3bn combined AuM, one third of its renewable energy assets and producing emissions beyond a 1.5 degree aligned world according to the International Energy Agency's roadmap.
- **Macquarie's Green Investment Group (GIG)**, a specialist green investor within MAM, actively **finds and creates new companies to lead decarbonisation technologies** – e.g.

[1] Climate financing and emissions reduction targets described at the Group level primarily encompass on-balance sheet activities. A huge portion of Macquarie's capital facilitation in energy markets is driven by off-balance sheet activities such as asset management through MAM (worth $795bn AuM), and commodities trading through CGM where it trades on behalf of clients. See relevant summary sections for MAM and CGM.

Corio is a leader in offshore wind, Eku Energy a leader in battery storage and Fleete a leader in decarbonising road transport in the EU. GIG boasts a **cumulative 85GW pipeline of renewable energy projects** in development across all its subsidiaries (this is 100% of capacity in the pipeline, not Macquarie's financed share).

***Macquarie Capital (MacCap)***

- MacCap's **profits were up 270% YoY**, driven by "material **asset realisation in the green energy**, technology, and business services sectors" in FY2022 while it still housed GIG.
- MacCap **invests the Group's balance sheet in green businesses** such as the Australian Renewable Energy Hub (AREH) and Aerogy, a US-based renewable fuels business
- In 2022, **MacCap capitalised on Germany's new demand for methane gas** by advising and financing a German port and regasification plant through its wholly owned subsidiary, Wavecrest Energy.

***Banking and Financial Services (BFS)***

- Macquarie, under BFS, **financed more EVs than petrol cars in FY2022** and is the only one of the five majors to be active in accelerating EV adoption in Australia.
- **It could be doing more to shift its growing mortgage book** and positioning to leverage AI and technology to drive decarbonisation of the $9tn Australian residential sector.

***Commodities and Global Markets (CGM)***

- CGM was voted **'house of the year' in gas/LNG, oil and oil products, and derivatives**. It also ranked as the **#4 physical gas marketer in North America** and the **#1 futures broker on the ASX** (i.e. financial commodity trading)
- CGM **provides an investment avenue into fossil fuels for green energy providers** as a financial hedging, or greenwashing, strategy to be exposed to returns in these markets.
- Since 2020, Macquarie has been a named entity in **potentially participating in manipulating coal quality certificates**, a decade long scam run by the Aus coal sector.
- Its **Global Carbon Business develops a portfolio of carbon offset projects** to help corporates achieve, or greenwash, their climate goals.

***The bottom line***

Macquarie is a global leader in financing the energy transition at scale. The diversified nature of its capital facilitation combined with expert capability in climate financing makes it a clear leader in the Australian banking sector. The Group's combined global 107GW portfolio of clean energy is unrivalled among major Australian financial institutions, but its dominance in conventional energy markets (particularly its exposure and support of entities currently expanding the supply of coal, oil and gas) undermines the Group's climate commitments by contributing to global warming above a 1.5 degree pathway.

The majority of Macquarie's impact and ability to steer capital lies off-book, via its asset management activities ($795bn AuM) and its commodity trading business. We find Macquarie discloses the full impact of its green financing (both on and off book), but is not anywhere near as thorough in its disclosure of fossil exposures, which are limited to on-balance sheet lending and equity. To quote Benjamin Franklin from 1736, "An ounce of prevention is worth a pound of cure" – no truer words for the current era.

## Decarbonisation context

This week's release of the sixth and final Intergovernmental Panel on Climate Change (IPCC) report was sobering, described as a 'final warning' on the climate crisis. The hopeful message is that there is sufficient global capital to close the global investment gaps, but there are barriers to redirecting this capital to climate action. It is increasingly clear that, with adequate policy support to underpin a massive new capital investment opportunity, Australian exports should play a world-leading role in reducing global embodied emissions in critical minerals and energy transition materials supply chains, enabling us to pivot from our position as the world's third largest exporter of fossil fuels as the world decarbonises. This places Australian financial institutions in a prime position to facilitate and even lead the way on the $625bn investment opportunity in Australian decarbonisation.

Australia has come a long way, federally and in cooperation with the states, and CEF is encouraged by the shifting narrative and policy landscape in the past year. The government's 43% legislated target on emissions reduction by 2030, 82% renewables target, $15bn National Reconstruction Fund, $1.9bn Powering the Regions Fund and $20bn Re-Wiring the Nation will catalyse the energy transition, allow banks to manage their risk return outcomes, and crowd in additional private financing for transition technologies. Internationally, the federal government's action sits in the context of the US IRA, the REPowerEU and EU Net-Zero Industry Act, China's 14th FYP, India's PLI and the Japanese GX Roadmap.

This momentum is combined with pending structural additions that promise to hasten the transition to a low carbon economy including an Australian sustainable finance taxonomy that defines transition activities, mandatory climate-related financial disclosures that improve information uniformity and transparency (including scope 3 emissions), and a safeguard mechanism to progressively ratchet down emissions of Australia's highest industrial polluters working in tandem with a price on carbon and an ACCU market with its integrity restored.

Regulators are cracking down on greenwashing with the latest ASIC case against Mercer Superannuation revealing its sustainable investment option held stocks in carbon intensive fossil fuels, gambling, and alcohol companies. Superfunds across the country are looking carefully at the portfolio holdings of their sustainable investment options as a result of the Mercer case. This comes after European sustainable funds were found to be holding stocks in the Adani Group, the world's largest private developer of new coal and alleged total corporate governance failure.

Against this backdrop of structural and financial momentum, the IEA's 2022 carbon emissions analysis points to slowing global emissions growth, due in part to increased deployment of clean energy technologies. A new report by Oil Change International highlights the almost US$6bn moving out of fossil fuels per year globally, a figure set to increase to as much as US$37bn per year as signatories to the Glasow Statement fulfill their pledge. The Australian Industry Energy Transition Initiative puts the cumulative domestic investment in renewable energy and industry abatement technologies at $625bn by 2050, i.e. $20bn financing pa. With these factors in mind, there is a need to move from project and megawatt thinking to gigawatt thinking to reach our energy transition goals within this critical decade.

## Macquarie Group context

### History

Macquarie Group Ltd (MGL, referred to as "Macquarie" or "the Group") is a world leading financial institution headquartered in Sydney with operations globally across Australia and New Zealand, the Americas, Asia, Europe, Middle East, and Africa.

Its diversity in financial products can be traced to its origins as Hill Samuel Australia Ltd, established in 1969 as a subsidiary of then UK merchant bank and commodities trader, Hill Samuel & Co Ltd. In fact, the first oil tanker to pass through the Suez Canal in 1892 belonged to Marcus Samuel of Hill Samuel & Co. – this division of the firm exists today as Shell plc. This longstanding capability in physical commodity trading and financial excellence helped to shape Macquarie as a successfully diversified financial group, originating in Australia and competing at global scale.

Macquarie's brand represents the Group's ongoing vision and ruthless pragmatism. Its logo was inspired by the holey dollar of 1813, the first Australian minted currency by then Governor of NSW, Lachlan Macquarie. He commissioned 40k Spanish silver dollars to be split into two coins creating a new currency worth 25% more than the original and ultimately firming up the supply of coins for trading within the colony – quite a practical and visionary move. It continues to symbolise Macquarie's vision to act on market trends ahead of other major Australian financial institutions, and the ruthless pragmatism to execute deals in its own corporate interest, often at the expense of softer measures of success.

*It could be said that Macquarie strategically chases the colour green – whether that's commercially viable* ***green energy solutions****, or* ***green US dollars*** *that flow from trading in conventional energy markets. But this approach of 'playing both sides of the energy transition' lends itself to another type of green –* ***greenwashing****. In this sense, Macquarie Group must be evaluated in context of its entire market involvement across the four business lines – on and off balance sheet.*

For example, in 2017, the simultaneous acquisition of the UK Green Investment Bank (rebranded as the Green Investment Group), along with Cargill Petroleum and Cargill's North America Power and Gas businesses illustrates how Macquarie plays both sides of the fence. The acquisitions provided Macquarie with a claim to "Europe's largest teams of green energy investment specialists", alongside a strong foothold in the world's commodities trading hub, Geneva, and access to physical North American power, gas and oil markets.

The acquisition of Cargill's oil, gas and power business lines came at a time when most US banks were forced out of commodities trading due to reduced profitability post the Global Financial Crisis and tighter regulation under the Dodd-Frank reforms and the Volcker Rule, which restricted proprietary trading by banks to curb 'risky' behaviour in the financial system. Macquarie spotted the strategic opportunity to acquire a profitable asset and incorporated Cargill within its Commodities and Global Markets business, a business line not restricted by banking liquidity requirements in the US and therefore not subject to the Dodd-Frank reforms. Macquarie exploits such loopholes with full vigour.

But Cargill is not a company one wants to be seen doing business with – it erodes one's social license to operate. Cargill has been dubbed the worst company in the world, with a long list of egregious acts ranging from repeated e-coli and salmonella breakouts due to contaminated meats, disposing of acid waste in natural bodies of water, to numerous counts of forced labour, slavery and child labour, to ongoing deforestation, to price fixing, tax evasion and more.

Macquarie's ruthless commercial appetite continued in 2021 when the Group benefited by up to $270m in windfall profits due to volatile gas and electricity prices amid a Texas weather deep freeze. Customers of Griddy Energy, backed by Macquarie's aforementioned North American commodities business, were delivered monthly bills up to US$8,000 if they used power when wholesale prices were spiking. The legacy in Australia is of a similar pattern – onerous contractual terms that screw low socio-economic groups in times of high inflation.

Macquarie also tends to be a big player in the secondary markets, where there is little visibility, no reporting requirements, and where the Reserve Bank of Australia has no governance or oversight. For example, the fast-growing infrastructure secondaries market is a strategic focus area for the Group, having executed US$500m worth of deals in the 18 months from the end of FY2021 to mid FY2023.

Today, Macquarie is a diversified financial group providing clients with asset management and finance, banking, advisory, risk and capital solutions across debt, equity and commodities markets. Activities that promote Macquarie's corporate self interest tend to be obfuscated within the Group's corporate structure, complicating a holistic assessment of its actual commitment to climate.

**Corporate structure**

Macquarie's four business lines are arranged under Macquarie Group Ltd (MGL) and its subsidiary Macquarie Bank Ltd (MBL) – see Images on page 4. The business lines are:

- Macquarie Asset Management (MAM) – *Macquarie's **asset management** arm, mostly off-balance sheet*
- Macquarie Capital (MacCap) – *Macquarie's **proprietary trading** arm, mostly on-balance sheet*
- Banking and Financial Services (BFS) – *Macquarie's **retail banking** arm, mostly on-balance sheet*
- Commodities and Global Markets (CGM) – *Macquarie's **commodity trading** arm, mostly off-balance sheet*

On-balance sheet activities are primarily driven by MacCap, as Macquarie's proprietary trading arm using the Macquarie Group balance sheet to turn a profit, and BFS which operates similar to the big 4 as a deposit taking institution providing on-balance sheet loans.

A huge portion of Macquarie's capital facilitation is driven by off-balance sheet activities such as asset management through MAM (worth $795bn), and commodities trading through CGM where it trades on behalf of clients.

Image 1 and 2 provide two vantage points on the Group's structure:

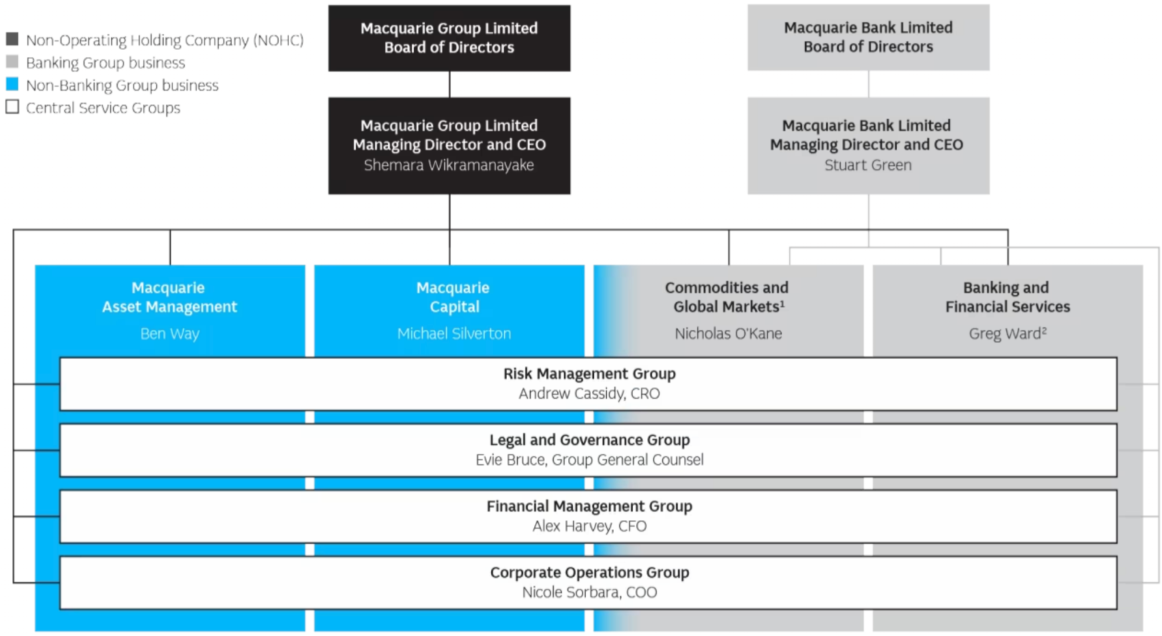


*Image 1 - [Macquarie corporate structure]*

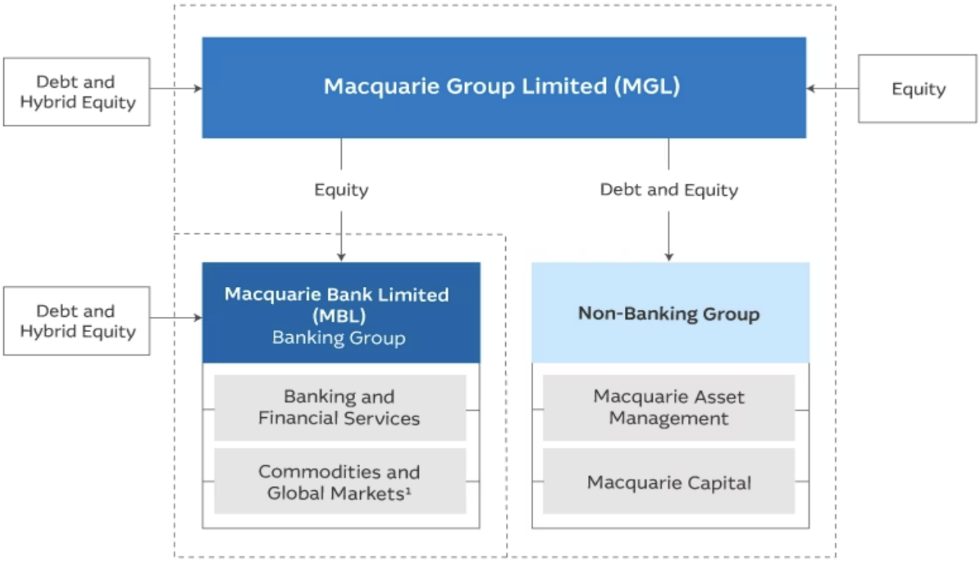


*Image 2 - [Macquarie Funding Structure]*

**Financial summary – Macquarie Group FY2022**

The figures below are based on FY2022 results, supplemented with 1H2023 results in certain areas. CEF will provide a FY2023 climate finance assessment when Macquarie releases its end of year results in May 2023.

- Macquarie Group claims its place as the fifth big bank in Australia, equal with ANZ's market cap of about $70bn and rivalling hard to overtake ANZ
- Market facing activities drove 56% of the Group's net profit contribution[2] – up 92% YoY suggesting the Group profited from energy price volatility among other factors
- CGM drove 41% of the Group's net profit contribution alone, suggesting that fossil commodity trading in North America (a major part of CGM's business) contributes greatly to the Group's profits
- 75% of revenue was driven by international markets – Americas (48%), Europe, the Middle East and Africa (20%) and Asia (7%), the remaining 25% from Australia and NZ
- MacCap's profits were up 270% YoY driven by "material asset realisation in the green energy, technology, and business services sectors" across all regions
- MAM manages $795bn AuM as at 1H2023, making MAM the largest part of Macquarie's business. By comparison, Macquarie Bank's risk-weighted assets were worth $135bn at the same reporting interval.

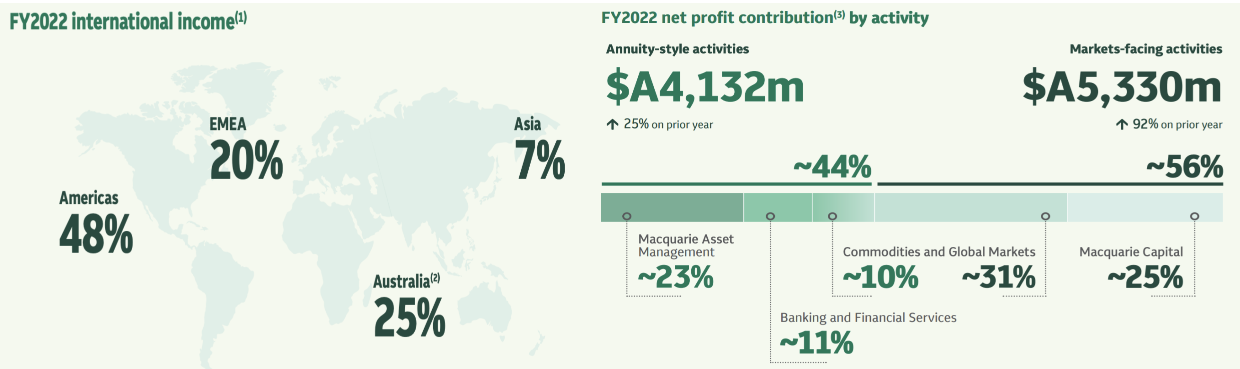


*Image 3* – FY2022 results snapshot

[2] Net profit contribution is management accounting profit before unallocated corporate costs, profit share and income tax.

# Macquarie Group FY2022 climate finance assessment

## Group Level Assessment

*Green financing summary*

Since its first renewables investments in 2005, Macquarie has played a key global role in establishing utility-scale wind, solar and batteries as an investable asset class. In CY2021, Macquarie earned the place of top-ranked global financial adviser for renewables according to IJGlobal. This month, CEO Shemara Wikramanayake advocated for the Australian government to make green energy projects "economic and competitive" if Australia is to remain globally competitive in attracting capital.

In FY2022, Macquarie invested, committed, and arranged $2.3bn for green energy assets, with a cumulative total of $32bn over five years. This puts Macquarie miles ahead of its big bank peers who lack the same global reach and in-house knowledge, and are restricted to debt financing enabled by the balance sheet.

Macquarie more than doubled its green energy capacity pipeline in the first half of FY2023, with 60GW added between 31 Mar and 30 Sep 2022 (see Image 5).

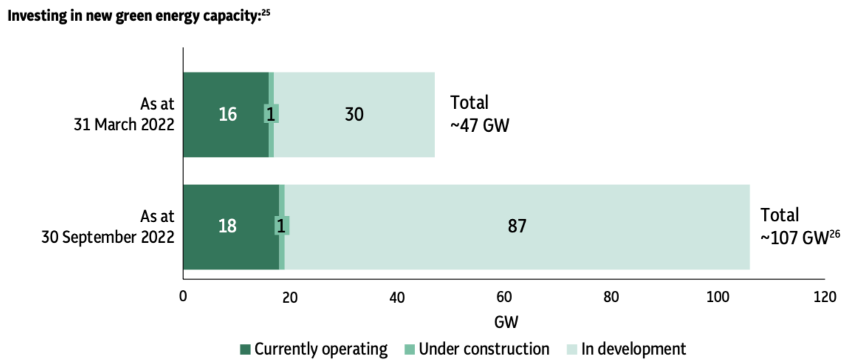


*Image 5 - Macquarie's green energy capacity*

A total of ~107GW worth of green energy investments are on Macquarie's balance sheet or under Macquarie management (inclusive of the Green Investment Group's 85GW renewables portfolio). This reflects 100% generating capacity of each asset, not the proportion owned/managed by Macquarie, which puts the methodology at odds with the Group's other climate disclosures where:

a) **fossils exposure** are only reported as on-balance sheet lending and equity investment, but not assets under management nor commodity trading
b) **financed emissions** are calculated only as a share of Macquarie's investment per the Partnership for Carbon Accounting Financials (PCAF) methodology.

*Financed emissions*

As a signatory to the Net Zero Banking Alliance (NZBA), Macquarie Group is on track to establish 2030 emissions reduction targets in nine priority sectors. Here's a snapshot of their progress and commitments to date:

- **2030 targets are as follows** (see Image 6 for more detail):
  - Oil/gas – 10-15% from FY2020 levels, i.e. **2030 target of 56.3-59.6gCO2-e/MJ**
    - It's difficult to compare across the sector because:
      - NAB reports in MtCO2-e per $m EAD
      - Westpac speaks in terms of absolute financed emissions
      - CBA is MtCo2-e per annum
      - ANZ is yet to set its oil and gas target
  - Motor vehicles – 34% from FY2020 levels, i.e. **2030 target of 147gCO2-e/km**
    - NAB to establish a transport target in 2024, no others have committed
  - Coal, EAD is down to $100m (on-balance sheet) – **Zero by the end of 2024**
    - Six years ahead of other majors who target zero by 2030
- 2030 targets for oil & gas, motor vehicles and coal account for 5% of Macquarie's cumulative EAD in all sectors[3], but are the most material in terms of emissions
- Adding residential mortgages and power generation in 2023 will equate to 75% of the Group's on-balance sheet EAD being subject to net zero targets
- 2030 targets will be set for all material carbon-intensive sectors by the end of 2024

| Decision | Oil/gas | Motor vehicles | Coal |
|---|---|---|---|
| **Financing products covered** | Lending and equity investments | Lending and leasing | Lending and equity investments |
| **Value chain in scope** | Upstream (oil/gas extraction) | Vehicle use | Estimated historical emissions: coal mining<br>Target: all coal[50] (refer to page 44) |
| **Financial indicator** | EAD | EAD | EAD |
| **Target metric** | Physical emissions intensity ($gCO_2e/MJ$) | Physical emissions intensity ($gCO_2e/km$) | Absolute emissions ($MtCO_2e$) |
| **Client emissions attribution method** | PCAF | PCAF | PCAF |
| **Emissions intensity methodology** | Portfolio weighted physical emissions intensity | Portfolio weighted physical emissions intensity | Portfolio weighted physical emissions intensity |
| **External data sources used in estimating client / sector emissions** | IEA, BP conversion factors | Vehicle make/model emissions data, NGER, Australian Bureau of Statistics (ABS) | IEA, NGER conversion factors |
| **Emissions Scope** | 1, 2 and 3 | 1, 2 | 1, 2 and 3 |
| **Scenario selection** | NGFS Net Zero 2050 | UN PRI commissioned IPR RPS | N/A[50] |
| **Geographical scope** | Global | Australia | Global |

*Image 6[4] – Macquarie's financed emissions targets*

[3] Includes on-balance sheet lending and equity investments for all sectors as at 31 March 2022, equalling a total $167bn exposure at default (EAD)
[4] Per footnote 50 in image, Macquarie's coal target is based on the Group's commitment to run off all balance sheet lending and equity exposure to companies by the end of 2024

*Climate capabilities*

Macquarie is well placed to lead Australia's energy transition and decarbonisation journey with in-house capabilities in renewables, batteries, grid modernisation, commodities, power purchase agreements etc (see Image 4). Australia's other major financial institutions may need to boost capability across multiple areas in order to lead the transition and compete with Macquarie.

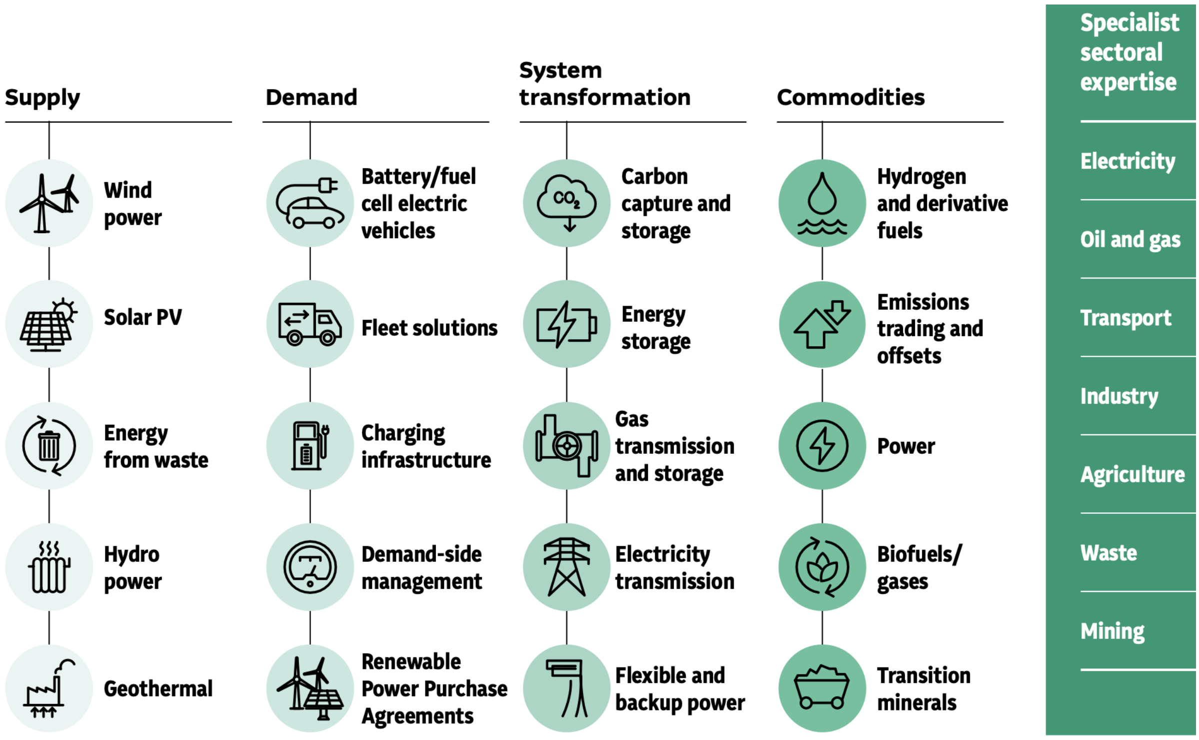


*Image 4 - Macquarie's climate capabilities*

*Equity and loan portfolio exposures*

Macquarie's FY2022 on-balance sheet lending and equity investments for combined coal, oil and gas was $1.3bn (coal $0.1bn, oil and gas $1.2bn), a fifth of ANZ's book noting Macquarie's commercial lending book is a fraction of its Big 4 peers. Macquarie is also low on renewables on-book financing (see Table 1) as it uses the Green Investment Group vessel under Macquarie Asset Management to affect most of its renewables investments.

| FY2022 (A$bn) | ANZ | NAB | Westpac | CBA | Macquarie |
|---|---|---|---|---|---|
| Combined coal, oil, gas | 7.2 | 4.7 | 2.8 | 2.8 | 1.3[5] |
| Renewables | 1.4 | 5.36 | 3.3 | 4.9 | 1.6[6] |

*Table 1 – Combined coal, oil and gas on-balance sheet lending and equity exposures*

[5] Per Image 5, includes on balance sheet lending and equity investments
[6] Per Image 6, includes banking book equity investments fair valued through profit or loss, investments in which Macquarie has significant influence or joint control (investments in associates and joint ventures), and investments held through consolidated subsidiaries. Excludes off balance sheet equity commitments.

Macquarie reports $6.40 invested in renewable energy for every $1 invested in conventional energy, but it's unclear how this ratio is achieved. The ratio doesn't equate when using the figures from Image 6, and there is a discrepancy in the figures reported against coal, oil, and gas stack up when compared with the disclosures at Image 5. CEF will seek to better understand the differences between these methodologies prior to our FY2023 assessment.

**Macquarie Group financing exposure as at 31 March 2022**

| Sector | 31 March 2022 EAD ($Ab)[41] |
|---|---|
| Coal[42] | 0.1 |
| Oil/gas[43] | 1.2 |
| Motor vehicles | 8.1 |
| Residential mortgages | 108.7 |
| Power and Utilities[44] | 4.5 |
| Other[45] | 44.5 |
| **Total** | **167.1** |

*Image 5 – see methodology at footnote 5*

**Macquarie's equity and loan portfolio exposures to the oil, gas, coal and renewables sectors as at 31 March:[13]**

| | FY21 | | | | **FY22** | | | |
|---|---|---|---|---|---|---|---|---|
| | Loan assets[14] | Equity investments[12] | | | **Loan assets[14]** | **Equity investments[12]** | | |
| | | Non-consolidated | Consolidated | Total | | **Non-consolidated** | **Consolidated** | **Total** |
| | $Ab | $Ab | $Ab | $Ab | **$Ab** | **$Ab** | **$Ab** | **$Ab** |
| Oil | 0.3 | 0.1 | <0.1 | 0.1 | **0.2** | **0.1** | **<0.1** | **0.1** |
| Gas | 0.2 | <0.1 | 0.1 | 0.1 | **0.2** | **<0.1** | **0.2** | **0.2** |
| Coal | 0.1 | <0.1 | <0.1 | <0.1 | **<0.1** | **<0.1** | **<0.1** | **<0.1** |
| Renewable energy | <0.1 | 0.6 | 0.7 | 1.3 | **<0.1** | **0.9** | **0.7** | **1.6** |

*Image 6 – see methodology at footnote 6*

*Re-skilling initiative*

On skills and employment, the Macquarie Group Foundation and the GIG business launched a UK Green Jobs program in November 2022 to help pivot skills and jobs into the green energy sector through profession-specific training. The program targets reskilling the unemployed workforce, and the first round claimed an 80% employment rate post graduation. The 2023 goal is to support 150 learners and expand the program into Ireland.

It is a promising initiative, one that Australia is in dire need of as we face into labour supply shortages and increased demand for workers – Australia needs to find people to fill up to 12,000 positions in the renewable energy sector in the next two years, and almost three times that number if it wants to become a hydrogen "superpower".

**Macquarie Asset Management**

Macquarie Asset Management (MAM) is a global asset manager in private and public markets, including infrastructure assets, green investments, agriculture and natural assets, real estate and more.

As at 1H23, Macquarie Asset Management (MAM) has $795bn assets under management (AuM), up from $773bn as of end FY2022, making it Macquarie's most impactful business line in terms of capital allocation for real world decarbonisation.

In FY2022, only 3% of total AuM ($24bn) was held in renewable energy assets. We would expect to see this number improve in FY2023 with the recent integration of Macquarie's Green Investment Group into the MAM business and in line with the climate commitment by Ben Way, Group Head of MAM, made clear in his letter to Investors:

> *"The outlook for energy is mixed. This winter will likely test but not break Europe's energy security. And we believe the transition to renewables and more sustainable energy will continue. It must. The case for more sustainable power on both environmental and security grounds has only strengthened, and many markets will make meaningful investments to lessen their dependency on fossil fuels."*

MAM also plays both sides of the energy transition. We know MAM is ranked within the top 20 global asset managers invested in fossil fuel expansion. As of Sep 2022, MAM is invested in a total of 89 coal, oil and gas developers with $7.3bn combined AuM. This is about a third of its $24bn renewable energy asset portfolio. It's a good start in the energy transition, but for a group that pitches itself as a world-leader, we expect to see momentum increase.

Launched in Nov 2021, a sustainable real estate JV between MAM and property developer Local, will fund sustainable real estate projects in excess of $500 million. It includes a zero emissions build-to-rent housing project at Kensington in Melbourne's inner north-west, due for completion in 2024. In the midst of a housing affordability crisis and a climate crisis, the build-to-rent case for affordability stacks up for middle to high income households. If Local can then make these energy efficient homes built at a 7.5 NatHERS star rating that's also a win for climate. However, it's worth noting that the jury is still out on whether a build-to-rent model can ease affordability issues for lower income households, plus the obvious home ownership concerns for current and future generations as corporate ownership of the residential sector increases.

*Active ownership*

MAM reports it is working closely with 165 private market portfolio companies and assets where they can influence the net zero target implementation by helping them to report and verify emissions, set reduction targets, and develop business plans to achieve their targets.

In public markets, where the same access to influence isn't there, they focus on "client guided fiduciary and regulatory responsibilities". This may indicate little engagement with the 89 coal, oil and gas developers if they are listed entities, and ignores their huge ability to use their voting power and reputation to support board-level climate resolutions. A recent study highlighted how Australia's five largest asset owners failed to demonstrate effective engagement with high emitting customers.

*Net zero portfolio commitment*

Most notably, MAM operates one of the world's largest infrastructure portfolios and has committed to achieving net zero by 2040 for its entire investment portfolio, as aligned with the climate science, and 10 years ahead of the 2050 requirement under the Net Zero Asset Managers initiative (NZAM). 95% of assets are now reporting GHG emissions, meaning MAM can track the progress of its portfolio firms, with 29% having established net zero targets.

A summary of MAM's commitment under the Net Zero Asset Managers initiative (NZAM), which represents 300 signatories and US$59tn in AuM:

- MAM currently has committed 43% (~$330bn) of its portfolio to be net zero by 2030, including 100% of its infrastructure and agriculture portfolio and more than 80% of its real estate portfolio.
- The 43% excludes "asset classes where companies currently have limited capacity to adopt a net zero framework", which means the remaining 57% of AuM is likely to be inclusive of carbon intensive sectors like oil and gas[7], steel, cement sectors.
- MAM says they are targeting for at least 90% of financed emissions in material sectors to be "assessed as net zero, aligned or aligning with a zero pathway" by 2030, which means it leaves them the rest of the decade to make meaningful progress in the most material sectors.
- MAM also has a commitment to phasing out investments in businesses with exposure to coal by 2030.

The recent integration of Macquarie's Green Investment Group into MAM will also assist the Group in achieving its ambitious 2040 net zero target.

***MAM's Green Investment Group***

Macquarie's Green Investment Group (GIG) is a renowned as a leading specialist green investor and developer of green energy assets and businesses that aim to accelerate the global transition to net zero, operating as part of MAM's Real Assets division within Private Markets.

GIG has an 85GW pipeline of renewable energy projects in development across all its subsidiaries. It focuses on driving the uptake of mature transition technologies like wind and solar, plus accelerating the deployment of emerging technologies like hydrogen, biogas and e-mobility. GIG has a global footprint, and recently facilitated Amazon's access to 300MW worth of wind and solar power purchase agreements (PPA) in India.

The integration of GIG into MAM, as of 1 April 2022, allowed GIG to operate as an asset manager, retaining long term value under the Group's umbrella and providing green investment options for its clients. The previous incorporation under Macquarie Capital lent itself to a more private equity style of play, where the Group worked to realise value out of smaller, private ventures before selling them off at a profit to institutional investors.

[7] We know there have been delays by the Science-Based Targets initiative (SBTi) in establishing targets for oil and gas when there is no clear pathway to decarbonising these sectors and if the sector refuses to act on the science and pivot to invest in new zero emissions business models.

All projects under the GIG umbrella are rated against five Green Purpose criteria from AAA to E including GHG emissions reduction, natural resource efficiency, natural environment and biodiversity protection/enhancement, and promoting environmental sustainability. These criteria should ensure GIG's investment decisions are aligned to environmental outcomes. An independent assessment, however, recently identified GIG's disclosure practices as an area where the entity is at risk of falling behind global best standards.

GIG both 'finds' companies to invest in and 'creates' them from its portfolio of projects. One strategy it often uses is to find and nurture investments at the project level and then consolidate them into a standalone corporate entity, wholly or partially owned by Macquarie GIG. Examples of existing portfolio companies include Corio, EKU, and Fleete.

*Corio Generation*

Corio Generation, wholly owned by Macquarie, commenced operations in April 2022 with a 15GW global pipeline in offshore wind projects, one of the largest development portfolios in the world. The project portfolio includes Australia's 2.5GW Great Eastern and 1.5GW Great Southern offshore wind projects.

Corio is the example of the 'create' strategy, where the company was formed to take forward Macquarie GIG's growing portfolio of offshore projects in markets like Taiwan and Korea, capitalising on its learning-by-doing success in the UK's offshore wind market.

Corio works along the wind farm value chain, taking projects from origination, through development and construction, and into operations. It fosters long-term partnerships in the creation and management of projects and provides long-term capital access from within Macquarie and from third parties.

*Eku Energy*

Eku develops, builds and manages global energy storage assets to support the transition to a renewables powered energy grid. Its initial portfolio will consolidate the Green Investment Group's existing battery storage activities in the UK, Australia, Japan and Taiwan.

Eku will eventually hold a 3 GWh pipeline of developed, acquired, or identified battery storage projects, including a 150 MW project in Australia at the site of the decommissioned Hazelwood coal-fired power station in Victoria.

The project is funded by ENGIE and Macquarie Group's GIG, and will be built, operated, and maintained over a 20-year period by Fluence – a global market leader in energy storage products and services and digital applications for renewables and storage.

*Fleete*

In September 2022, GIG launched a new EV infrastructure business for operators of commercial EVs, to help decarbonise Europe's transportation sector. In Europe, buses and trucks account for less than 2% of the vehicles on the road, yet they contributed 23% of the carbon emissions from road transport in 2019. Vans accounted for 13% of EU road transport carbon pollution.

Fleete uses a charging-as-a-service model – providing the installation, management, and financing of charging infrastructure, on a monthly subscription with no up-front costs – to help large fleet operators of buses, trucks and vans to accelerate their EV transition.

Fleete will be positioned to facilitate access to the approximate 65 million EV chargers required in Europe by 2035 and its projected financing requirement of US$134bn.

**Macquarie Capital**

Macquarie Capital (MacCap) is a leading global specialist in energy and utilities, as well as transport, digital, and social infrastructure. This division makes on-balance sheet investments to turn a profit for the Group, which means transparency is low as its proprietary trading strategies are kept well guarded.

In FY2022, MacCap executed $457bn worth of transactions and recorded huge growth in its net profit contribution, up 270% on the previous year – this was driven by "material asset realisation in the green energy, technology, and business services sectors" in all regions.

MacCap's 2023 Outlook recognises the world is facing an 'energy trilemma': the need to deliver energy that is sustainable, secure and affordable, noting: "$320 billion of investment is required in the National Electricity Market, particularly in storage capacity to accommodate the increased variability in power generation across the grid." However, the opportunity size at least doubles when factoring in the need to develop local value chains with particular focus on sustainable fuels, low carbon mobility and a local hydrogen industry.

In line with the opportunity, MacCap aims to leverage the Group's balance sheet to invest in climate solutions. MacCap is involved in such initiatives as:

- A key investor in the Australian Renewable Energy Hub (AREH), a 26GW solar and wind farm that plans to eventually export 10m tonnes a year of ammonia fuel through a loading facility in the Pilbara region. Once it is up and running, the AREH promises to be one of the world's largest renewable and green hydrogen energy hubs.
- In FY2022 MacCap launched Aerogy, a US based platform that develops, operates and invests in "renewable natural gas" (RNG) infrastructure projects designed to address the climate impacts of methane by transforming organic waste into cleaner energy solutions. However, critics of RNG question the investment merits due to its cost, need for subsidies, heavily distributed/fragmented nature of supply, mixed environmental benefits and the fact that it requires prolonged investment in fossil fuel infrastructure.

Once again, it is very clear that the business plays both sides of the energy transition.

Recently, MacCap was the only Australian bank to take advantage of Germany's "LNG Acceleration Act" and capitalise on Germany's new demand for methane gas by advising and financing the German port and regasification plant through its wholly owned subsidiary Wavecrest Energy.

**Banking and Financial Services (BFS)**

Placed within Macquarie Bank Ltd, a wholly owned subsidiary of Macquarie Group Ltd, Banking and Financial Services (BFS) is the Group's retail banking service providing personal banking and business banking to retail clients, advisers, brokers etc. The main way it affects climate is through its reach in its residential lending and promotion of EV uptake through discounted loans and full-service offerings to accelerate adoption of EVs.

*Electric vehicle financing*

Transport accounts for 18% of all of Australia's carbon dioxide emissions. FY2022 was a record year for Macquarie's car loans program, financing more EVs than it did petrol cars. Macquarie was the first Australian banking group to provide discounted loans to customers for EV purchases, and remains the only bank among the Big 5 to do so.

It builds upon the early $100m investment of the Clean Energy Finance Corporation (CEFC) in 2017 that subsidised discounted finance for customers to purchase EVs. The 2021 Home of Electric Vehicles campaign went further, building out an ecosystem of service offerings from helping customers find the right EV, to organising test drives, accessing finance and negotiating purchase and trade-in prices.

*Residential lending and decarbonisation*

Macquarie is now firmly established as the country's fifth-largest home loan lender, with a home lending portfolio of $59 billion of owner-occupier loans, and $44 billion of investor loans, as at Jan 2023. Residential buildings account  for about 24% of overall electricity use and 12% of total carbon emissions in Australia – the major contributing factor being inefficient energy systems including heating and ventilation, hot water and lighting.

With its growing presence and access to Australia's $9tn residential mortgage sector, there's an opportunity for Macquarie to leverage its success in EV financing to make a dent in housing emissions through a financing model that incentivises energy efficiency in all Australian homes.

**Commodities and Global Markets (CGM)**

Macquarie's Commodities and Global Markets business (CGM) operates in both the physical and financial commodities markets providing risk management, market access and financing solutions for its clients.

CGM was responsible for 41% of FY2022's net profit contribution to the Group, making this business line a pillar of its financial success. CGM comprises mostly market-facing activities, i.e. subject to price volatility in commodities markets, which means it has had the opportunity to capitalise on fossil fuel hyperinflation. CEO Shemara Wikramanayake confirms the role that the war in Ukraine and extreme US weather conditions has on ongoing CGM profits.

CGM's current success is built from its 2017 acquisition of Cargill Petroleum and Cargill's North America Power and Gas businesses. Cargill's petroleum business had bolstered income at the business, adding 35 new staff and providing Macquarie with access to new clients and markets, including a trading deck in Canada's gas markets.

CGM's outlook points to the ongoing dependency on oil and gas throughout the energy transition, stating they will continue to support clients in these sectors as well as help them to decarbonise (we note Exxon and Chevron are not doing anything material to accept and act on the climate science, and Woodside here is barely any better).

We note transparency on CGM's activities is low so there's no real way of assessing the business beyond the highlights provided. This is because the majority of Macquarie's off-book market facilitation of coal, oil and gas occurs in the CGM business line. Below are a few examples that highlight its prominence in these sectors:

a) In the 2022 Energy Risk Awards, CGM was voted 'house of the year' in gas and LNG, oil and oil products, and derivatives. CGM also ranked as the #4 physical gas marketer in North America in FY2022 (i.e. near term gas trading on the spot market), and ranked the #1 futures broker on the ASX (financial commodity trading with a 12 to 36 month horizon).
b) CGM provides hedging products for green energy suppliers, retailers, producers – i.e. it provides an investment avenue into fossil fuels for green energy providers as a hedging or greenwashing strategy to be exposed to returns in these markets.
c) Since 2020, Macquarie has been a named entity in potentially participating in manipulating coal quality certificates. This involved several organisations getting laboratory companies to manipulate the results of quality tests on coal being shipped for export. Fraudulent upgrading of the quality certificate meant the coal fetched a higher price, in a decade-long scam run by the Australian coal sector.

*Global Carbon Business*

Macquarie's Global Carbon business, launched in 2021, provides access to voluntary and compliance global carbon markets to help corporates manage their emissions-related risks and achieve, or greenwash, their climate goals. The business is developing a portfolio of "high-quality offset projects" consisting of both carbon removal and carbon reduction projects.

Its flagship cookstove project is led by C-Quest Capital, an award-winning global carbon project developer, backed by Macquarie and Shell. They expect to deliver cookstoves to 3.7m households in sub-Saharan Africa resulting in the abatement of more than 220Mt of carbon over the next 10 years (i.e. 220M carbon credits added to the voluntary market). Emissions reductions will be achieved through using clean cookstoves that are three times more efficient than open fire cooking, reducing the amount of unsustainably harvested firewood, and switching to sustainable sources of biomass fuels such as crop residue. We note, specifically the reference to avoided deforestation as one of the three emissions reduction avenues – the findings of the Chubb Review highlight the difficulty in proving carbon credits generated this way.

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