

Progress Report 2022

December 2022

Welcome to the Green Investment Group's Progress Report 2022

It's been another busy year for GIG. This report gives an overview of our recent activity, covering the period from 1 September 2021 to 30 September 2022, unless indicated otherwise.

We'd love to know what you think of the report. You can contact us via our website and keep in touch with us all year round via our social channels.



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Welcome from GIG Global Head, Mark Dooley

The IEA declared 2022 to be the year of the first global energy security crisis. Compounding inflationary pressures driven by the COVID 19 pandemic, the invasion of Ukraine is radically reshaping the energy landscape, forcing governments around the world to grapple with rising costs and growing energy security concerns.

Our response to these challenges will have long-term consequences. As COP27 made clear, it's critical that as we tackle the immediacy of the energy crisis, we do not inadvertently exacerbate the climate crisis.

We must avoid the temptations of short-termism and remain resolute in our knowledge that the only long-term solution is the acceleration of investment into the energy transition.

Renewables are now not only the lowest-cost form of new capacity in most markets, they're also often the most readily deployable. By harnessing domestic renewable sources of power, countries can quickly and cheaply enhance energy security, reduce exposure to volatile energy markets, and stimulate economic growth without exhausting our carbon budget.

This is increasingly recognised across the private sector. Forward-thinking companies and investors are actively engaged in reshaping business models and strategies to produce sustainable, secure and equitable outcomes with renewed determination and purpose. This remarkable surge in appetite for energy transition solutions provides further momentum to our collective ambition.

At GIG, we're very proud of the breadth and impact of our efforts across established and new technologies and across multiple geographies. This is how we double down on our mission to accelerate the transition to net zero.



Our mission ahead

Five years after the acquisition of the UK Government's Green Investment Bank and having transformed GIG into a leading global green energy investor and developer, in April we joined Macquarie Asset Management (MAM). As part of the world's largest infrastructure asset manager, we're now able to mobilise the capital of some of the world's largest institutional investors behind the transition, providing an even greater scale of decarbonisation solutions for clients, portfolio companies, communities and the environment.

Within MAM, we continue to pursue our mission through two key strategies:

- driving volume in the mature technologies of wind and solar, and
- delivering pioneering approaches to accelerating the deployment of emerging technologies like hydrogen, biogas and e-mobility

And we continue to deliver these strategies by pushing into new markets, such as Brazil and India, and by creating and investing into specialist businesses – businesses like Corio Generation, Fleete and HyCC. By taking forward significant development portfolios, these businesses deliver volume at a truly transformational scale, offering investors the opportunity to participate in value creation within the energy transition as that value is being created.

These companies also enable us to offer a unique suite of decarbonisation products to our corporate clients, who are increasingly looking for holistic solutions to help them meet their sustainability commitments.

You can read more about our strategies and portfolio companies in the Activity section of this report.

A commitment to green governance

The growth of environmental, social and governance (ESG) and 'impact' investing has resulted in a legitimate curiosity on behalf of investors and shareholders about how green investments really are. Since our inception, we've been committed to reporting on the impact of our investments with the utmost scientific rigour and transparency. Our Green Objective is uniquely hardwired into the way we do business – so when we say an investment is 'green' you can have confidence in exactly what that means. You can read about our governance procedures and the green impact of our investments in the Green Impact Governance section of this report.

Finally, thank you, as ever, to all our clients, partners and stakeholders who travel with us on this journey. None of this would be possible without your support and I look forward to continuing our work together.

While the climate and energy crises may loom large, we know they can be met head-on by accelerating the transition to net zero. As we embark on our new phase of growth as part of Macquarie Asset Management, we look forward with determination and ambition, buoyed by the knowledge that we're on a trajectory to deliver more impact than ever before.



Mark Dooley

Global Head, Green Investment Group

Our impact

Green energy projects in development around the world¹

85+ GW

Committed or arranged into green energy projects around the world in the past 10 years²

£26+ bn

Part of the world's largest infrastructure asset manager³

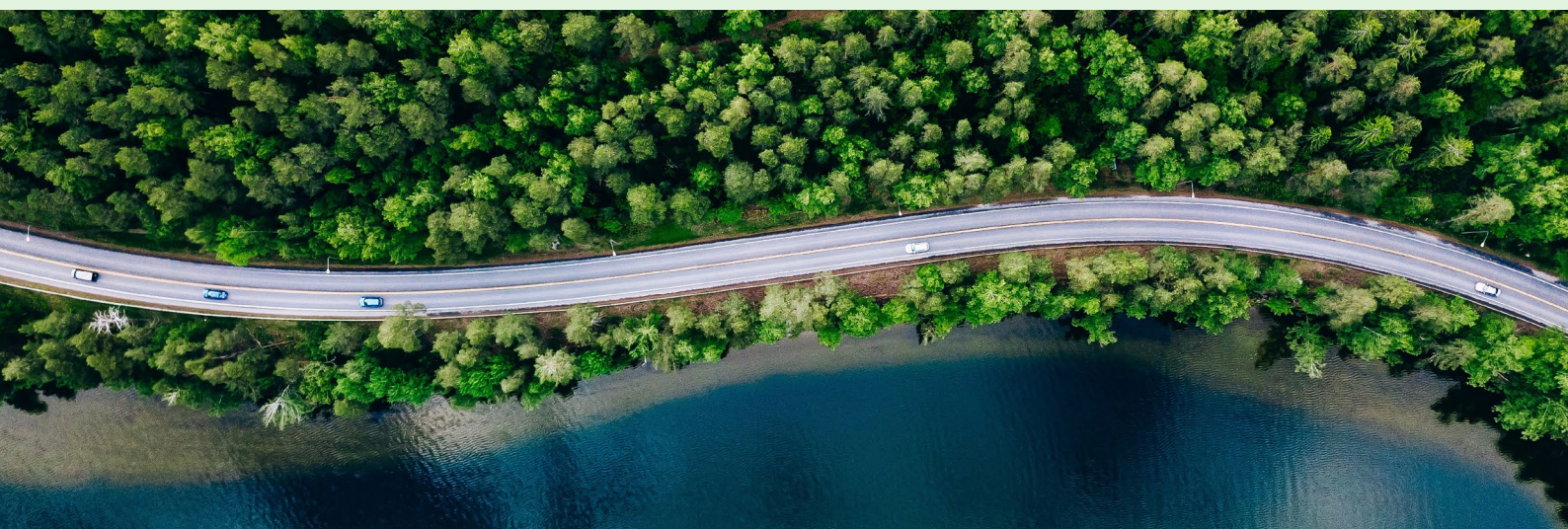
#1

212,093 kt CO₂e emissions avoidance, equivalent to removing nearly three million cars from the road⁴

3 million cars

590,318 GWh renewable energy generation, equivalent to meeting the electricity needs of over five million homes⁵

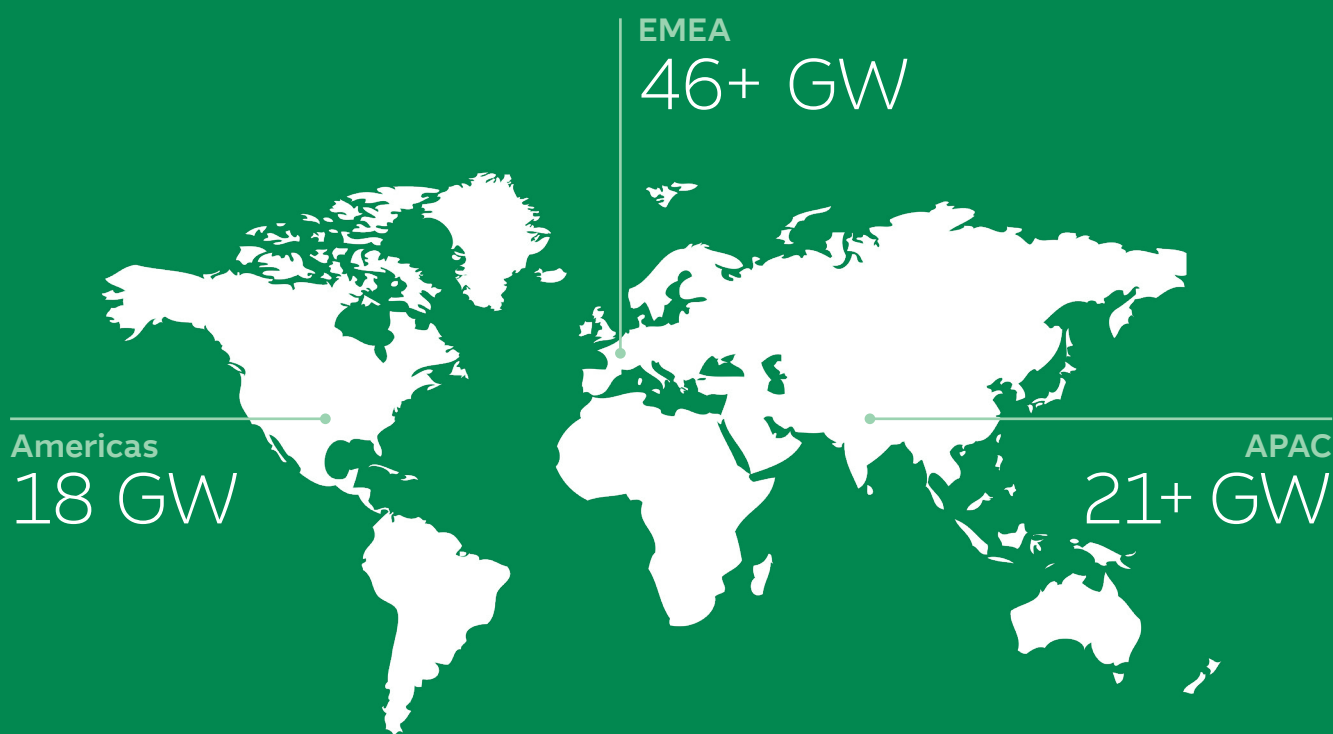
5 million homes






1. The total capacity of green energy assets in development that GIG has an equity investment in or that are included in funds using the GIG brand (specifically MGRF1, MGRF2 and MGETS) as at 30 September 2022. The GW figure includes 100% of the potential generating capacity of each asset, not the proportion owned/managed by GIG or the funds.
2. Combining historic activity from 2012 to 31 March 2022 where GIB, GIG or Macquarie Capital have contributed equity or debt.
3. [IPE Real Assets \(July/August 2022\)](#).
4. Total estimated greenhouse gas emissions avoidance over the lifetime of our investments to date. Estimated number of equivalent cars removed for 25 years, based on standardised petrol vehicle efficiency and mileage. For more information on the green impact of our activities, including green impact data specific to the reporting period, see the Green Impact Statements at the end of this report.
5. Total estimated energy generation over the lifetime of our investments to date. Equivalent homes powered for 25 years, based on country specific data (Enerdata). For more information on the green impact of our activities, including green impact data specific to the reporting period, see the Green Impact Statements at the end of this report.

Global development pipeline






GIG has investments and operations in over 25 markets around the world.



Core renewables

-  Offshore wind
-  Onshore wind
-  Solar

Beyond renewables

-  Battery storage
-  Bioenergy
-  CCUS
-  Hydrogen and renewable fuels
-  Heat/transport electrification

Our activity

In our mission to accelerate the transition to net zero, we connect our clients to an expansive range of green investment opportunities and provide a holistic range of decarbonisation solutions for our partners, communities and the environment.

We do this by creating, investing into, and managing specialist green energy businesses that drive volume in core renewables such as wind and solar. We also look beyond renewables to help accelerate the deployment of next-generation energy transition technologies.

Core renewables

Building the foundations of a net zero future

While solar saw record-breaking deployment levels in 2021¹, and wind generation increased by a record 273 TWh², the IEA estimates average annual additions of these technologies need to at least double if we're to achieve net zero by 2050³. That's why we're working with our portfolio companies and partners to drive volume in these core renewable energy technologies.



Having secured rights to a number of new developments during the reporting period - including Sceirde Rocks in Ireland and the 2 GW West of Orkney Wind Farm in Scotland - we had created one of the largest offshore wind development portfolios in the world. In April 2022, we launched Corio Generation to take that portfolio forward as a specialist offshore wind business.

Since its launch, Corio has announced projects in Brazil, Vietnam and Australia, as well as new partnerships to advance cutting-edge floating offshore wind developments in the Mediterranean and Celtic Seas. In May 2022, Corio announced its partnership with Ontario Teachers' Pension Plan - one of the world's largest institutional investors - which will invest up to \$US1 billion to support the development of its portfolio.

[Learn more about Corio](#)



Our European solar development business, Cero Generation, has also seen significant expansion throughout the reporting period, growing its development pipeline to over 9 GW across 150 projects, and its team to over 70 technical and investment specialists.

In September 2021, Cero started construction on its first subsidy-free utility scale project in the UK, and in early 2022 it reached financial close on a series of projects in Italy, and a 100 MW project in Greece, which benefits from a long-term Power Purchase Agreement (PPA) with Axpo - making it the first PPA-backed solar project in that region. Two long-term PPAs back Cero's 70 MW Agrivoltaic Pontinia development in Lazio, Italy, while the 48MW Castrum project, also in Lazio, signed a PPA with Centrica.

[Learn more about Cero](#)

1. IEA (2022), [Solar PV](#) Tracking Report, September 2022.
2. IEA (2022), [Wind Electricity](#) Tracking Report September 2022.
3. IEA (2022), [Renewables](#) Tracking Report, September 2022.



In July, we stepped up our commitment to the US solar market through an investment in Galehead Renewables. This followed the acquisition of two French solar developers, Reden Solar and Apex Energies Group through the Macquarie Green Investment Group Renewable Energy Fund 2 (MGREF2). Solar development capacity within our portfolio now stands at almost 50 GW globally.

[Learn more about Galehead](#)



While we have seen strong growth in wind and solar generation, investment in clean energy remains highly concentrated in advanced economies⁴. GIG and our portfolio companies are therefore increasingly focused on accelerating deployment in emerging markets.

Blueleaf Energy, our onshore renewables development platform operating across APAC, is driving deployment in emerging markets such as Thailand, Vietnam, Malaysia, Indonesia and India, in addition to developed markets like Japan and Taiwan. Over the reporting period, Blueleaf signed a power purchase agreement with Thai Asia Pacific Brewery Group to power its 'Brewed by the Sun' project in Thailand, and through its subsidiary Vibrant Energy, signed PPAs for 231 MW to power data centres for Sify – one of India's leading digital solutions providers.

[Learn more about Blueleaf](#)

Across established and emerging markets, our core renewables development portfolio now stands at 80+ GW⁵

80+ GW

In July 2022, alongside partners Hydro Rein, we acquired our first combined onshore wind and solar development in Brazil through MGREF2. This pioneering development will supply renewable electricity to a bauxite mine and aluminium refinery through a long-term PPA. This will facilitate the refinery's transition from coal to electric boilers, helping to deliver green aluminium production in a traditionally hard to abate, heavy emissions sector.

4. IEA (2021), [Financing clean energy transitions in emerging and developing economies](#)

5. The total capacity of wind and solar assets in development that GIG has an equity investment in or that are included in funds using the GIG brand (specifically MGREF1, MGREF2 and MGREF3) as at 30 September 2022. The GW figure includes 100% of the potential generating capacity of each asset, not the proportion owned/managed by GIG or the funds.

Beyond renewables

Delivering deep decarbonisation

According to the IEA⁶, around half of the cumulative emissions reductions required to move the world onto a sustainable trajectory come from four main technology approaches: electrification of end-use sectors such as heating and transport; the application of carbon capture, utilisation and storage; the use of low-carbon hydrogen and hydrogen-derived fuels; and the use of bioenergy.



According to IEA⁷, to achieve net zero by 2050, electricity needs to account for 50% of total energy consumption, and 90% of that electricity needs to come from renewable sources. To facilitate this transformation and maintain security of supply, significant investment is required to increase the flexibility of our energy systems through the deployment of technologies like battery storage.

In November 2022, via the Macquarie GIG Energy Transition Solutions (MGETS) fund we launched Eku Energy, our global battery storage business.⁸ Upon completion of launch in all proposed jurisdictions and subject to receipt of regulatory approvals, Eku will have 190 MWh of flexible storage capacity under construction and a further development pipeline of more than 3 GWh across the UK, Australia, Japan and Taiwan.

The pipeline includes Maldon, a 40 MW Battery Energy Storage System (BESS) in Essex, which was the first project in the portfolio to reach financial close, and a 150 MW project located at the site of the former Hazelwood Power Station in the Latrobe Valley, which is set to be Australia's largest privately funded and owned utility-scale battery project.

[Learn more about Eku Energy](#)

These technologies represent the next phase of the energy transition. That's why we're working to accelerate the deployment of the technologies and solutions that will drive electrification and deep decarbonisation across all sectors of the economy and to provide our clients exposure to these opportunities.



The electrification of sectors like transportation can also present opportunities for supporting the delivery of smart, flexible energy systems. In September 2022 we launched Fleete, a new electric vehicle infrastructure business for operators of electric commercial vehicles. Its charging-as-a-service model helps fleet owners accelerate their transition to electric vehicles by providing access to charging infrastructure. Using smart, two-way charging technologies Fleete's customers can optimise energy consumption and business spend, while also providing demand management services that offer significant benefits for electricity networks.

[Learn more about Fleete](#)

6. IEA (2020), [Clean Energy Innovation](#)

7. IEA (2021) [Net Zero by 2050: A Roadmap for the Global Energy Sector](#)

8. Eku Energy was launched in November 2022. This activity took place outside the reporting period. On launch, Eku Energy will commence operations in the UK and Japan with commencement of operations and transfer of seed assets in other jurisdictions to occur as relevant regulatory approvals are obtained.



However, not all sectors can be electrified. That's why we're also working to accelerate the deployment of technologies that will deliver green molecules.

As the EU looks to rapidly reduce its dependency on imported natural gas, it has set ambitious targets for the production of green hydrogen and biomethane⁹. To help deliver these targets, we announced the launch of HyCC in December 2021. A joint venture with Nobian, HyCC uses water electrolysis to produce green hydrogen from renewable power at an industrial scale. Its development portfolio stands at more than 1 GW and includes projects that will produce green hydrogen for methanol, aviation fuels and steel production.

[Learn more about HyCC](#)

Via MGETS, we also acquired a specialist biogas platform from BayWa AG r.e¹⁰. The platform develops, constructs and operates biogas projects that provide biomethane and power to local energy companies, industrials and energy traders. Its existing portfolio comprises five operational plants in Germany and a pipeline of development projects located across Italy.



9. [REPowerEU Plan, 2022 EUR-Lex](#)

10. This acquisition took place in October 2022, outside the reporting period.

Focus on work health and safety (WHS) and environmental, social and governance (ESG)

At GIG, we understand that a strong focus on work health and safety (WHS) and environmental, social and governance (ESG) adds value to our clients, stakeholders, and society, that goes beyond sound risk management.

A robust WHS and ESG culture

Our objective is to engage, empower and ensure a robust WHS and ESG culture, and we aspire to positively influence WHS and ESG practices at our assets through the people, partners, companies and communities with which we work.



Engage

- We engage with relevant stakeholders to identify opportunities to reduce WHS and ESG risk at the source and to enhance management approaches.
- We remain relevant to business needs, aligning WHS and ESG goals with business strategies.



Empower

- We empower WHS and ESG leadership with integrity, influencing internal and external stakeholders to uphold the standards we set.
- We empower our workers, contractors and subcontractors with the ability to speak up or stop work whenever they feel unsafe.



Assure

- We ensure accountability through a clear statement of commitments and a robust framework of governance.
- We take responsibility for the safety of our workforce and require our contractors and subcontractors to do the same.



Focus on work health and safety

Working with the broader Macquarie Group, we have refreshed our Safety Alignment Framework to ensure it is fit for our new role as a fiduciary asset manager. GIG has adopted MAM's Integrated Management System, which further embeds health and safety activities into a "business as usual" approach. We also continue to maintain a strong focus on early-stage planning through robust due diligence, investment governance, hazard identification, appropriate resourcing, performance monitoring and incident management.

Our work health and safety programme follows a multi-pronged approach focused on six key areas: governance, communication, resourcing, community, reporting and technology enablement.

Focus on environmental, social and governance

GIG's approach to environmental and social responsibility is governed by MAM's Environmental, Social and Governance (ESG) framework, which is aligned to the Macquarie Group Environmental and Social Risk (ESR) policy. This policy establishes the processes for identifying, assessing, managing, mitigating and reporting material environmental and social risks. We report directly to the Macquarie Board on compliance with the Macquarie ESR Policy and other Macquarie requirements. ESR matters are supported by Macquarie's Risk Management Group Environmental and Social Risk team, who assist our teams to identify and manage environmental and social risk.

Our supply chain

Through our WHS and ESG programme we support our development teams in applying responsible criteria to their supplier selection and procurement activities. GIG takes the reports of human rights abuses and recent allegations associated with polysilicon manufacturing in Xinjiang seriously. We have enhanced our due diligence process for supplier contracts to understand this very complex matter. Our enhanced due diligence includes traceability studies, social audits, reporting and escalation procedures, and ongoing monitoring.

[Learn more about Macquarie Group's wider approach to WHS and ESG in its 2022 Annual Report](#)

[Read MAM's ESG framework in its 2021 Sustainability Report](#)

[Learn more about Macquarie Group's Environmental and Social Risk Policy](#)



Working in partnership

The transition to net zero demands collective action. That's why we're proud to take a leading role in a variety of important initiatives, offering our experience and expertise to promote the development of a greener global economy.

Industry associations we work with

40+

Events we participated in

140+

GEC attendees from 43 countries

2,000+



Our global community



Raising the ambition with GEC and COP

In 2021 we held the annual Macquarie Green Investment Group Green Energy Conference (GEC) virtually for the second year running. Over 2000 delegates joined us from 43 countries to hear from leading figures in the energy transition and discuss the collective need to raise our ambitions ahead of COP26 in November 2021. At this year's COP27, we supported the Global Wind Energy Council's "Wind. Are You in?" campaign, and our Global Head, Mark Dooley, shared insights on a number of high-profile panels throughout conference.

[Learn more about GEC](#)



Training young people for green jobs with Generation

We continue to provide technical advisory support to Generation UK & Ireland's first-of-a-kind Green Jobs programme alongside funding from the Macquarie Foundation. The programme will see 100 unemployed young people trained to become retrofit advisors, supporting upskilling across the green sector. This year saw the programme's first graduates secure long-term employment with an average salary of £24,000.

[Learn more about the Green Jobs Programme](#)



Collaborating with BloombergNEF

Through our collaboration with BloombergNEF, we continue to make green impact data available to organisations wishing to invest in or procure electricity from high impact wind and solar projects. As at October 2022, the Project Impact Tracker, hosted on BNEF.com, had more than 68,000 wind and solar projects rated with GIG's Carbon Score.

[Learn more about BloombergNEF](#)



Accelerating the transition with FAST-Infra

FAST-Infra – the 'Finance to Accelerate Sustainable Transition in Infrastructure' initiative – focuses on accelerating investment in sustainable infrastructure. Alongside the Global Infrastructure Facility, we co-chair the Sustainable Infrastructure (SI) Label working group, which is developing a globally applicable label for SI assets to provide coherence for market participants, facilitate investment decisions and raise standards across the globe. Bloomberg L.P. and the Global Infrastructure Basel Foundation (GIB) have recently been appointed to serve as the data repository and secretariat of the label.

[Learn more about FAST-Infra](#)



Mobilising climate finance with CFLI

Established in 2019 by Michael Bloomberg, the Climate Finance Leadership Initiative (CFLI) is a private sector-led effort to mobilise and scale private capital for climate solutions with a focus on emerging markets and developing economies. Macquarie is a founding member of CFLI and Macquarie CEO Shemara Wikramanayake co-chairs the CFLI India country pilot, which has founded initiatives to advance e-mobility, water and the circular economy, green hydrogen, and further expansion of Indian renewable energy.

[Learn more about CFLI](#)



Accelerating progress with SMI

The Sustainable Markets Initiative (SMI) was launched to focus on accelerating global progress towards a sustainable future. GIG's Global Head, Mark Dooley, represents Macquarie on the SMI's Financial Services Taskforce and co-chairs its Sustainable Infrastructure workstream, which is working on actionable plans to accelerate investment in sustainable infrastructure.

[Learn more about SMI](#)



Supporting GFANZ

In April 2021, the Glasgow Financial Alliance for Net Zero (GFANZ) was launched by Mark Carney, UN Special Envoy on Climate Action and Finance. Macquarie is a member of GFANZ and in July 2021, Shemara Wikramanayake was appointed as chair to the GFANZ workstream focused on accelerating capital mobilisation for the transition in emerging markets and developing economies. The GIG team is supporting Macquarie's work on this programme drawing on its extensive experiences of advancing climate solutions across the globe.

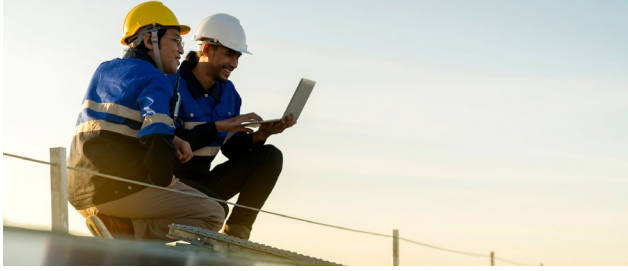
[Learn more about GFANZ](#)



Evolving nature related risks with TNFD

The mission of the Taskforce on Nature-related Disclosures (TNFD) is to create a risk management and disclosure framework to enable organisations to act on evolving nature-related risks, ultimately shifting global financial flows towards nature-positive outcomes. The Taskforce's members represent \$US19.4 trillion in assets and GIG is proud to support Elizabeth O'Leary, MAM's Head of Agriculture, in her membership role.

[Learn more about TNFD](#)



Developing green standards

In partnership with the British Standards Institution (BSI), GIG contributed expertise on behalf of the UK to ISO's development of ISO 14030 standards for green bonds and green loans. In September 2021, ISO published the standards for issuing green bonds and loans, respectively, and in July 2022 the green taxonomy standard, which describes eligible categories for green investment, was published.

[Learn more about ISO](#)



Standardising green accounting

We continue to contribute to the ongoing UNFCCC-supported work of the IFI Harmonised Approach to GHG Accounting, which in 2021 provided technical grid emissions data recommended by the Partnership for Carbon Accounting Financials (PCAF) Standard for GHG reporting on avoided emissions.

[Learn more about UNFCCC](#)

Funds under management

After five years operating as a principal investor within Macquarie Capital, in April 2022, GIG joined Macquarie Asset Management (MAM). MAM is a full-service asset manager comprised of two groups, Private Markets and Public Investments. GIG operates as part of MAM's Real Assets division within Private Markets, which manages more than \$US146.4 billion of equity and a portfolio of more than 167 companies on behalf of investors.

We will now invest in green energy assets and businesses through MAM-managed funds on behalf of our clients. We will also create businesses that will become portfolio companies owned through the funds. By bringing together the world's largest infrastructure asset manager and one of the world's leading specialist green investors, we're able to:

- mobilise institutional capital behind the energy transition;
- connect MAM clients to a significantly expanded range of green investment opportunities;
- enable long-term investment across the asset lifecycle, from development to operations;
- leverage GIG's industrial expertise to help decarbonise MAM's portfolio; and
- provide a greater scale of decarbonisation solutions for clients, portfolio companies, communities and the environment.

[Read more about MAM](#)

[Learn more about MAM's approach to sustainability in its 2021 Sustainability Report](#)



1. International Renewable Energy Agency (IRENA).
2. H1 Holdings.

MGREF1

Macquarie Green Investment Group Renewable Energy Fund 1 (MGREF1) was the world's first dedicated offshore wind fund. Today, it manages investments in a portfolio of six operational offshore wind farms around the UK representing approximately 1,450 MW of generation capacity.

MGREF1 demonstrated strong performance over the reporting period, primarily driven by the increase in power prices globally and the successful progression of asset management initiatives across the portfolio. ESG-related initiatives also remained a core focus across the portfolio during the period and MGREF1 assets participated for the first time in the GRESB submissions, allowing the Fund to strengthen its ESG reporting and to benchmark CO₂ emissions against its peers.

To date, the MGREF1 portfolio has avoided more than 12.9 Mt of greenhouse gas emissions and is expected to produce enough renewable electricity to power the equivalent of 1.3 million homes each year.



MGREF2

Macquarie Green Investment Group Renewable Energy Fund 2 (MGREF2) made four new investments during the reporting period. The fund is now ~70% committed against its €1.6 billion commitments.

In November 2021, we announced the acquisition of 90% of Apex Energies, a leading French commercial and industrial rooftop solar developer with an operational portfolio of 157 MW and a development pipeline of 2.3 GW. This was followed by the 100% acquisition of Reden Solar, one of Europe's largest independent solar platforms with over 14 GW of capacity in development, and the acquisition of 50% of Island Green Power (IGP), a UK-based solar development company with an 11 GW pipeline across the UK, Spain, Italy, Australia and New Zealand. Alongside the investment into IGP, the fund also acquired a 65 MW ready-to-build UK solar asset that it will construct during 2023/24.

The fourth investment of the period saw the fund enter into agreements to acquire a 50.1% stake in a 456 MW onshore wind new build in Brazil alongside Hydro Rein, a subsidiary of Norsk Hydro. Two Brazilian subsidiaries of Norsk Hydro have signed a long-term offtake agreement for a large portion of the output from the wind farm once constructed.

UKCI

UK Climate Investments (UKCI) is a joint venture between GIG and the UK Government. With an objective to invest £200 million of the UK's international climate finance, UKCI seeks to mobilise investment in green infrastructure in key emerging economies and developing countries. UKCI is now fully committed across seven transformational investments in sub-Saharan Africa and India.

During the period, UKCI made a further investment in greenfield onshore wind in South Africa, using for a second time an innovative Black Economic Empowerment financing instrument developed by the UKCI team. This brought the total of construction-stage renewable energy projects supported by UKCI in South Africa to just under 1 GW. UKCI also made a follow-on commitment of £15 million to finance the expansion of the first dedicated renewable energy yieldco in sub-Saharan Africa, Revego Africa Energy. In India, new private capital came in alongside UKCI into Cleanmax Solar to support the further growth of this leading player in India's burgeoning private offtake renewable energy market.

Green impact governance

Our green mission

GIG's mission is to accelerate the transition to net zero. This mission underpins everything we do and is enshrined in our robust green impact governance framework.

Any Macquarie Group activity which is aligned to GIG is overseen by UK Green Investment Bank Limited, itself indirectly owned by Macquarie Group Limited. This means that investments made by any Macquarie Group entity using the GIG name and brand for trading and marketing purposes is only permitted to do so if that activity complies with our Green Objective (which is detailed in the Articles of Association of UK Green Investment Bank Limited and lists our five Green Purposes), our Green Investment Principles and our Green Investment Policy, together making up our unique green impact governance framework.



Our green purposes

All investment activity undertaken under the GIG name and brand must contribute to one or more of our five Green Purposes. When we describe 'green impact', we mean a positive contribution to these Green Purposes.

These Green Purposes form a binding part of GIG's governance framework. Not only are they written into our Articles of Association, they can also only ever be altered with the consent of the holder of the 'special share', the Green Purposes Company. No proposal has been made to amend the Green Purposes since the business was acquired by Macquarie Group in 2017.



01

Reduce greenhouse gas emissions



02

Advance efficiency in natural resource use



03

Protect or enhance the natural environment



04

Protect or enhance biodiversity



05

Promote environmental sustainability

Reduce greenhouse gas emissions

Reduction of greenhouse gas emissions means reducing emissions of atmospheric gases responsible for causing global warming and climate change from human-caused sources to the atmosphere.

Advance efficiency in natural resource use

Natural resources are those renewable and finite naturally occurring assets that can be used for economic production or consumption. These include mineral and energy resources, soil resources, water.

Protect or enhance the natural environment

Protection or enhancement of the natural environment means managing the effects of human activity on our physical environment – land,

water and air – in a way that does not degrade the environment over time but maintains or improves environmental quality and functions.

Protect or enhance biodiversity

Protection or enhancement of biodiversity means retaining or restoring the variability among living organisms and the ecological complexes of which they are part, including diversity within species, between species and of ecosystems.

Promote environmental sustainability

Promotion of environmental sustainability means actively and visibly supporting, encouraging or facilitating the transition to a greener global economy through the indirect effects of our investments.

The Green Purposes Company

The Green Purposes Company Limited (GPC) is the holder of the 'special share' in UK Green Investment Bank Limited. The GPC is a company limited by guarantee. It has five Trustees who are independent of GIG and Macquarie Group. The primary role of the Trustees is to approve or reject any changes proposed to GIG's Green Purposes. The Trustees were appointed on 31 October 2016 for an initial term of five years commencing August 2017. In performing its role, the GPC is committed to public accountability, transparency and competency, and to contributing positively to GIG's future development.

We maintain a strong and constructive working relationship with the GPC Trustees and meet on a quarterly basis to discuss our projects, evolving business strategy, and green impact. The Trustees also continue to receive information relating to the green impact of all new GIG transactions as they happen. As in previous years, this year's Progress Report includes a letter from the GPC commenting on our performance against our five Green Purposes.

Measuring and reporting our green impact

We measure and report on the green impact of our investment activities with rigour and transparency. We have maintained a consistent and robust approach since our inception to ensure all our investment activities contribute positively to at least one of GIG's Green Purposes.

Our investment approach is underpinned by a framework of three documents which drive all our investment decisions. All three documents are publicly available on the GIG website.

[Learn how we measure our green impact](#)



Green Investment Principles

Sets the benchmark for assessing and managing the green impact of investment transactions and related activity.



Green Investment Policy

Describes how we ensure that our activities and those of our portfolio companies and funds align with our Green Investment Principles.



Green Impact Reporting Criteria

Sets out how we calculate and report the green impact of our investments and activities

Green impact statements

We report the *quantitative* green impact of our activities in our green impact statements. We continue to report the green impact of projects on the GIG balance sheet and now also report on the green impact of projects in funds that carry the GIG brand, following our transition into MAM.

The quantitative green impact of all of our projects is measured by comparing the performance of a project to a defined baseline or 'counterfactual'. This baseline is what would happen in the absence of a project. We do not report green impact for projects into which we have only provided development funding at this stage, due to the relative uncertainty over potential future green impact.

The green impact statements indicate the principal quantifiable environmental benefits arising from our investments into projects that have reached Final Investment Decision (FID).

Selected totals for data in the green impact statements are independently assured each year. Those totals in respect of the financial year 2021/22 have been independently assured by Deloitte in accordance with the Independent Assurance Report.

[View green impact statements](#)



Green ratings

Since 2020, we have also measured and disclosed the *qualitative* contributions of our activities to our five Green Purposes through Green Ratings. In line with our green impact statements, we continue to report the green impact of projects on the GIG balance sheet and now also report on the green impact of projects in funds which use the GIG brand.

Our green ratings methodology informs our investment decisions, with a project's contribution evaluated on a scale of AAA to E. In line with our quantitative impact assessment, the qualitative green impact of all of our projects is measured by comparing the performance of a project to a defined baseline or 'counterfactual'. This baseline is what would happen in the absence of a project.

As with our quantitative reporting, we do not report qualitative green impact for projects into which we have only provided development funding at this stage, due to the relative uncertainty over potential future green impact.

Each year we report on our total ratings given to investments in the year (at FID or later, in accordance with our Green Impact Reporting Criteria).

[View green ratings](#)

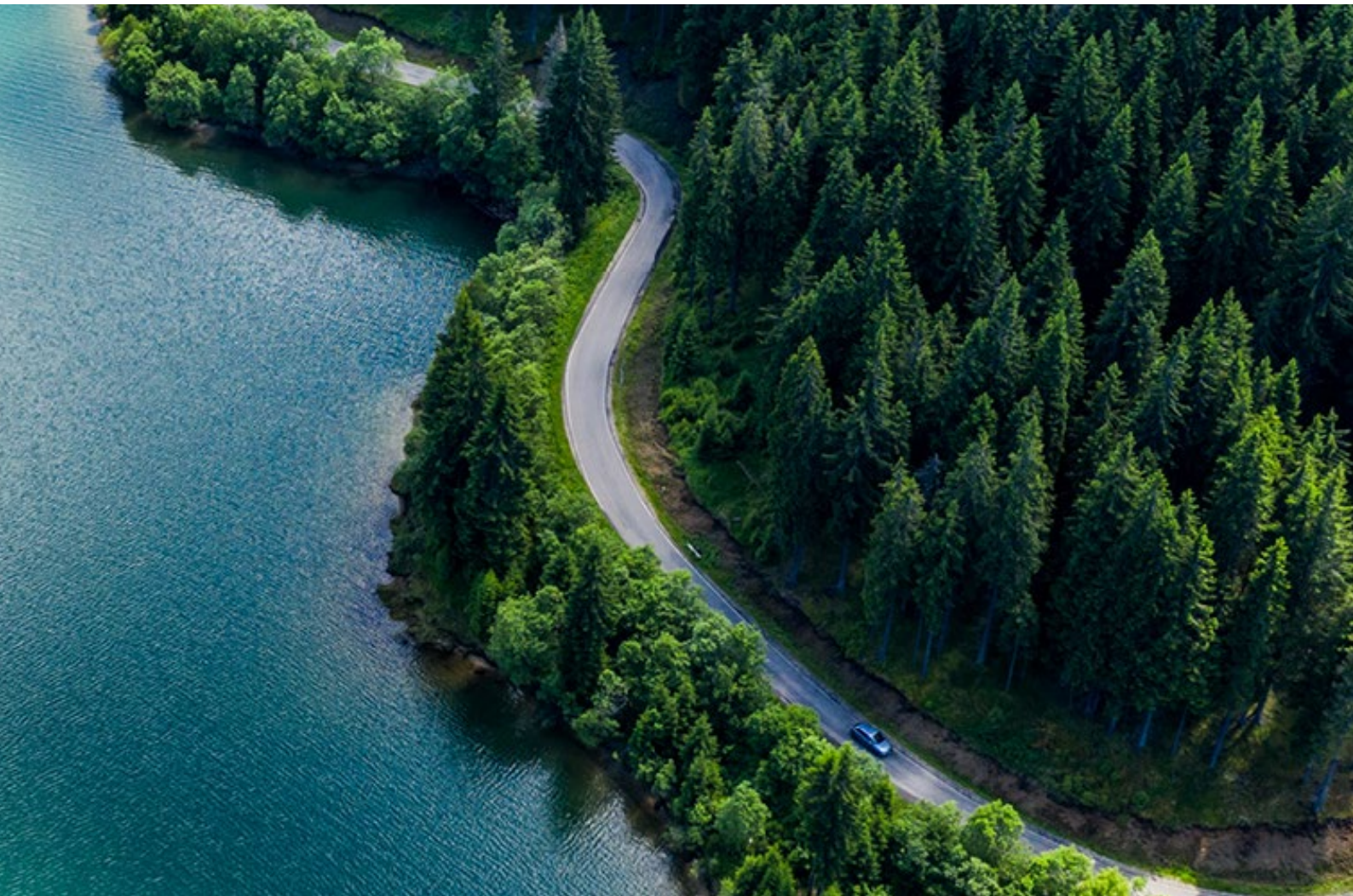
Net zero

Our net zero update for the financial year 2022 is provided in the standalone GIG Financed Emissions report, which accompanies this Progress Report. The update details our financed emissions through FY22 with explanation of the measurement approach.

Reflecting our move into MAM and transition to a fiduciary asset manager, GIG's approach to net zero is being reviewed and will be reported in a subsequent update.

[Read GIG's Financed Emissions report](#)

[Read more about MAM's approach to net zero](#)



Green Purposes Company: Annual letter 2022

Introduction

This is our fifth annual letter in which we independently comment on GIG's performance against its green objective and five green purposes. The letter addresses GIG branded investments globally for the financial year to 31 March 2022. We confirm that no request to change the green purposes was received in that period. This letter should not be relied upon to provide formal assurance of GIG's activities or their green impact.

Summary

GIG is a market leader in green investment, with evidence of leading practice in a range of assessment areas. However, in considering comparable institutions, we take the view that this position is increasingly at risk: other players have caught up and, in some assessment areas, overtaken GIG in market best practice. Without taking the actions set out in this letter we believe other market actors are likely to fully overtake GIG in setting the pace. The main areas where, in our view, GIG has lost ground to peers, include disclosure, stakeholder engagement and risk.

GIG therefore needs to rapidly evolve across several assessment areas if it wishes to maintain a leadership position through which it can help unlock the further flow of investment into green projects and fulfil its mission to 'accelerate the transition to net zero'.

Leading and best practice in the finance sector is increasingly set by internationally recognised standards, such as the TCFD¹, plus, for green investment, frameworks such as SFDR² and the EU Taxonomy of sustainable activities. Accordingly, in our detailed assessment below we have aligned our commentary to the main themes included in these standards and frameworks, namely strategy, governance, risk and opportunity management, metrics and targets, continuous improvement, stakeholder engagement and disclosure.

Strategy

GIG transitioned from Macquarie Capital to Macquarie Asset Management (MAM) around the end of the reporting period covered by this letter. This is

a significant development. It provides GIG with the opportunity to operate at greater scale and to exert greater influence over the wider Macquarie group. Together GIG and MAM form an impressive platform with the resources and expertise to shift the dial on the flow of capital into green projects around the world. We look forward to seeing GIG thrive under these new arrangements.

GIG's commitment to net zero is welcome. We recommend GIG develop and publish a net zero transition plan demonstrating how the commitment will be met, aligned with international standards.

We remain disappointed that GIG has not invested beyond carbon emission reduction projects over the reporting period. As in previous letters, we encourage GIG to invest across the full spectrum of the green purposes, such as in nature-based solutions and the circular economy. These are not only essential areas on the journey to net zero but offer significantly growing market opportunities. Nevertheless, the steps GIG has made in battery storage and EV charging, and their plans to include some of these wider areas in future are welcome, as are such projects in the wider Macquarie group. We encourage GIG to publish more details on these developments as soon as it is able to.

Governance

As the integration of GIG into MAM settles down, we would encourage greater clarity on the interaction between the new Chief Sustainability Officer, Macquarie's net zero commitments and the governance of GIG's Green Objective.

GIG's Green Governance Framework, for several years an industry benchmark, should be reviewed against emerging regulatory and best practice standards. As part of any future review, we believe consideration should be given to the thresholds at which an investment contributes to one or more green purpose. Currently, any investment which makes a positive contribution, or one which offers protection, is deemed sufficient. We encourage GIG to continue to operate to a higher bar, consistent with net zero and environmental targets.

1. Taskforce on Climate-related Financial Disclosure

2. Regulation on sustainability-related disclosure in financial services.

The GPC forms a key part of GIG's governance arrangements. We enjoy a constructive relationship, including quarterly meetings with the senior leadership team and subject matter experts. Our regular meetings, together with an information sharing protocol and funding agreement, have helped ensure that the GPC role and special share arrangement remains effective and relevant, and contributes to GIG's reputation as a green investor. It is important that GIG devotes the time and resources necessary to ensure that this remains the case.

Risk and opportunity management

The identification, assessment and management of ESG (Environmental, Social and Governance) risks is core to GIG's principles and policies and to the Green Governance Framework. We encourage GIG to consider enhanced disclosure of such risks and its risk management framework. This should include the methods to assess and mitigate risk, and to realise opportunities.

Metrics and targets

GIG's green impact methodology follows widely accepted best practice. As with the wider governance framework, GPC believes there are opportunities to further strengthen this as the market evolves.

First, when forecasting and reforecasting the green impact of a project over its lifetime, GIG may wish to consider applying a TCFD-style analysis process such as stress testing, uncertainty forecasting or scenario analysis, and adding this uncertainty to the green impact statements.

Second, the supply chain for green technologies extends far and wide. Accordingly, it is essential that robust processes are in place for assessing full Scope 3 carbon emissions, and to ensure full life cycle analysis and due diligence of the social and environmental impacts arising from the full value chain (e.g. any negative impact associated with the extraction, processing and supply of raw materials).

Third, the methods to determine green impact beyond greenhouse gas emissions remains opaque for stakeholders. We recommend GIG discloses a robust explanation of the methods used, whether these are quantitative or qualitative.

The green impact disclosures within GIG's annual Progress Report are subject to external assurance. This is welcome, but as in previous years, we note that in providing this assurance, the quality or accuracy of the underlying data was not in scope. Only the calculation methodologies and output data are assured. It is our view that this scope of

assurance will only meet market expectations if there are: i) greater levels of disclosure as advocated in this letter; and ii) associated assurance is provided on those additional disclosures.

Continuous improvement

It is pleasing to note that GIG staff have been involved in the progression of various industry standards, frameworks and initiatives. This includes co-chairing the FAST Infra Sustainable Infrastructure Label, leading UK input into ISO 14030 and representing Macquarie on the Sustainable Markets Initiative. With this engagement GIG continues to demonstrate strong evidence of thought leadership and is aligned with peers in many respects. As GIG is now part of MAM we look forward to this influence extending into the various global asset managers' initiatives to accelerate the path to net zero.

Stakeholder engagement

While GIG undertakes a range of outreach activities, including an annual stakeholder event, they could conduct more systematic stakeholder engagement in line with good practice. To provide the foundation for such engagement, a comprehensive stakeholder mapping exercise should be undertaken to identify and categorise key stakeholders. Undertaking these exercises would align GIG with peers, many of which disclose their key stakeholders, how they engage with them, and the key issues identified through this engagement.

Disclosure

Disclosure is an area where, in our view, GIG is now at risk of falling significantly behind peers and leading practice. To maintain credible global leadership and influence within green investment policy, process and practice, GIG should aspire to leading edge disclosure practices. As noted above, there are several areas where disclosure could be improved. These include risk, stakeholder engagement and the metrics and targets associated with GIG's commitments to net zero, among others.

This concludes our annual letter 2022. We very much look forward to working with GIG over the year ahead.



Trevor Hutchings

Chair, Green Purposes Company Ltd
21 November 2022

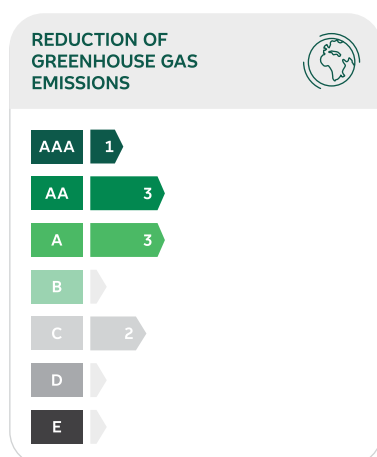
Green ratings report

GIG balance sheet

Our ratings approach for the reporting period is consistent and comparable with our first disclosures of these ratings last year, although we are currently in the process of revisiting and updating our approach in light of the findings of the independent benchmarking review undertaken by Arup.

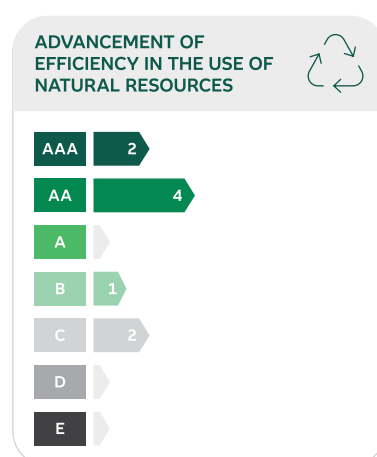
We use our green ratings against all five of our Green Purposes to inform our investment decisions – a project's contribution is evaluated on a scale of AAA

to E, as indicated below. Here we report our total ratings given to investments in the year (at FID or later, in accordance with our Green Impact Reporting Criteria), with the exception of rooftop solar projects as the Green Analytics team does not routinely rate individual rooftop solar assets. The graphic below indicates the number of projects assigned to each rating. The reporting period for our green ratings is April 2021 to March 2022.



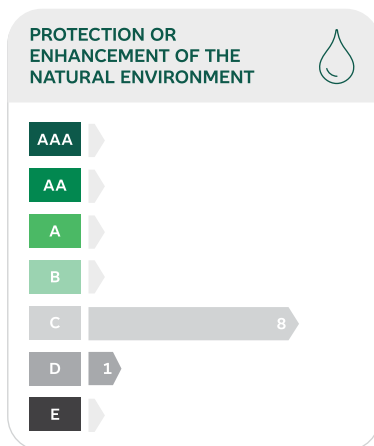
Reduce greenhouse gas emissions

- Most of the projects in which we invested in 2021/22 are forecast to result in reduced greenhouse gas emissions with one project rated AAA, the highest rating.
- Two projects are not forecast to directly result in reduced greenhouse gas emissions. These are both BESS projects.
- Projects achieving higher green ratings for this Green Purpose are located in countries with higher grid emissions (e.g. Poland and India) and are technologies with lower embedded project emissions (e.g. onshore wind).
- The metric reported for this Green Purpose is lifetime greenhouse gas emissions avoided (ktCO₂e).



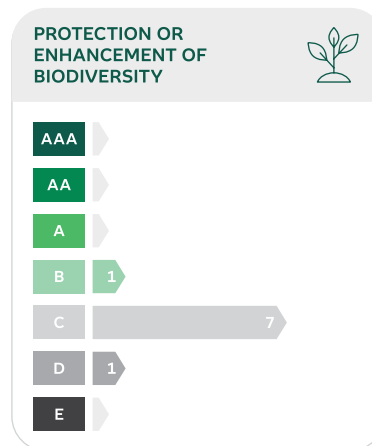
Advance natural resource efficiency

- Most of the 2021/22 projects are forecast to advance resource use efficiency.
- Projects achieving higher ratings have greater displacement of natural resource consumption.
- The two BESS projects have achieved a C rating as they do not directly result in advancing natural resource efficiency.
- Metrics reported for this Green Purpose are:
 - renewable energy generation (GWh)
 - energy consumption avoided (GWh)
 - materials recovered for recycling (kt).



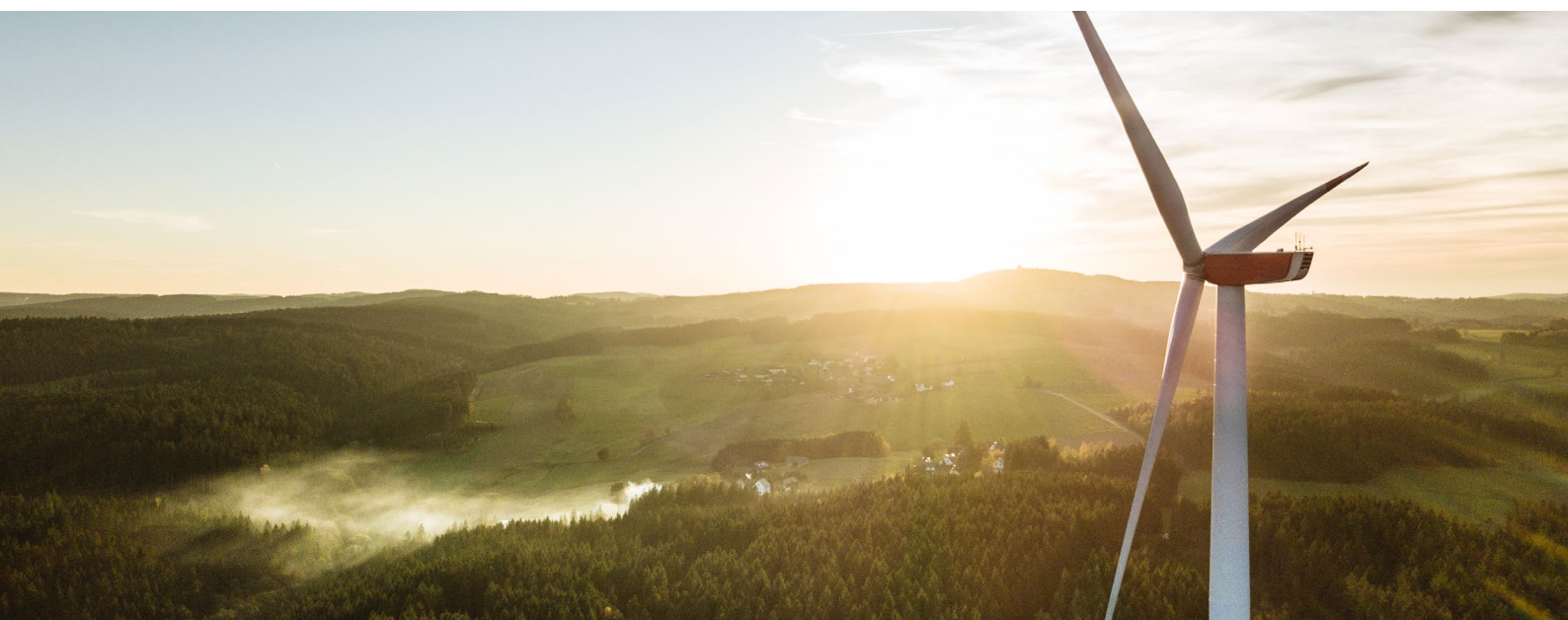
Protect or enhance the natural environment

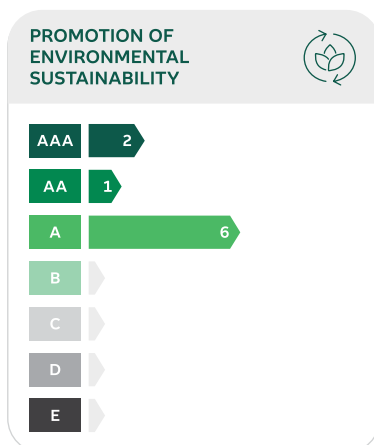
- All of the 2021/22 projects are anticipated to have no significant or minor adverse effects on the local natural environment, following environmental mitigation measures.
- The metric reported for this Green Purpose is landfill avoided (kt).



Protect or enhance biodiversity

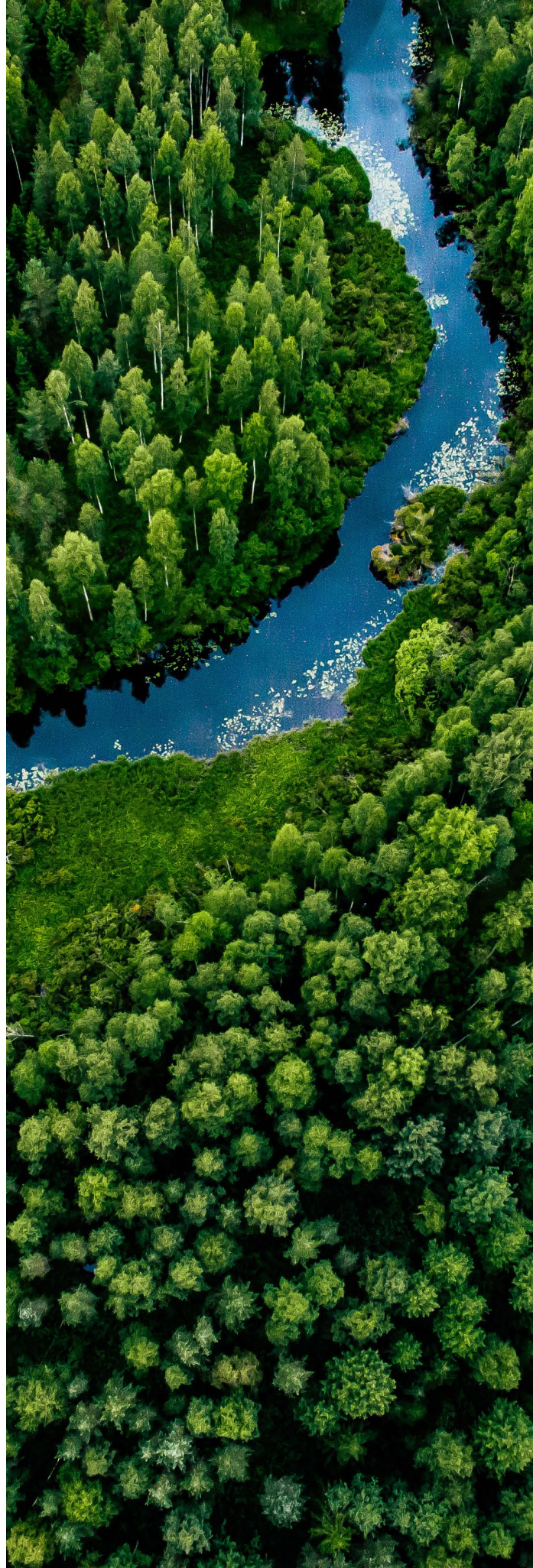
- One project in 2021/22 is expected to contribute directly to biodiversity protection or enhancement with a B rating. This is for a solar PV project in the UK where re-wilding and habitat corridors have been introduced as part of the project to achieve biodiversity net gain. This is partly due to biodiversity net gain principles being adopted in the UK.
- Adverse effects on biodiversity have been fully mitigated where possible, with residual effects deemed acceptable by planning and permitting authorities for each project.
- Most projects are anticipated to result in minor or no significant adverse effects on biodiversity, following mitigation and compensatory measures, but some will have moderate adverse effects.
- Where there is uncertainty over impacts, we conservatively assume more severe impacts until mitigation measures are implemented.





Promotion of environmental sustainability

- While the other Green Purposes encompass direct environmental sustainability improvements, this Green Purpose addresses indirect effects of projects to facilitate, stimulate or promote environmentally beneficial action.
- All of our projects are expected to make a positive contribution to indirect promotion of environmental sustainability.
- Green impact metrics associated with this green purpose are energy storage capacity in MW and MWh (or equivalent)
- Two projects, the BESS projects, are forecast to achieve the highest rating of AAA. BESS projects score highly against this green purpose due to their strong enabling effect. They support the deployment of further renewable energy generation by stabilising the grid and therefore accelerate the transition to net zero by maximising clean energy capacity and grid stability in markets globally.



Funds

Our ratings approach for fund investments is consistent with the approach used for balance sheet investments. During the green impact reporting year, one project was closed for MGRF2; therefore, to protect the confidentiality of individual investments, the green ratings for the funds are presented descriptively.

Reduce greenhouse gas emissions

- The project acquired for MGRF2 in 2021/22 is forecast to result in reduced greenhouse gas emissions.
- The metric reported for this Green Purpose is lifetime greenhouse gas emissions avoided (kt CO₂e).

Advance natural resource efficiency

- The project acquired for MGRF2 in 2021/22 is forecast to advance resource use efficiency.
- The metric reported for this Green Purpose is renewable energy generation (GWh).

Protect or enhance the natural environment

- The project acquired MGRF2 in 2021/22 is not expected to contribute directly to natural environment protection or enhancement.
- The project is anticipated to have no significant or minor adverse effects on the local natural environment.

Protect or enhance biodiversity

- The project acquired MGRF2 in 2021/22 is not expected to contribute directly to biodiversity protection or enhancement.
- The project is anticipated to have no significant or minor adverse effects on biodiversity.

Promotion of environmental sustainability

- The project acquired for MGRF2 in 2021/22 is expected to make a positive contribution to indirect promotion of environmental sustainability.



Green impact statements

The green impact statements below indicate the principal quantifiable environmental benefits arising from our investments and from our managed funds' investments into projects that have reached FID.

The green impact of all our balance sheet and fund assets – whether qualitative or quantitative – is measured by comparing the performance of the project to a defined baseline or 'counterfactual': i.e. what would happen in the absence of the project.

Green impact is not reported for projects into which only development funding has been provided due to the relative uncertainty over potential future green impact. More information on GIG's methodology can be found in GIG's Green Impact Reporting Criteria 2021/22, a copy of which is published on GIG's website.

This year, we report on the green impact from balance sheet projects as we did in 2021, i.e. those projects where GIG provided binding commitment to make a principal investment at, or subsequent to, the project reaching Final Investment Decision (FID). Reflecting our move to MAM in April 2022, we also report on the green impact of projects in funds that carry the GIG brand which reached FID by 31 March 2022.

Selected totals for data in the green impact statements in respect of the financial year 2021/22 have been independently assured by Deloitte in accordance with the Independent Assurance Report. The reporting period for the green impact statements is 1 April 2021 to 31 March 2022.

[Learn about how we calculate our green impact](#)

GIG balance sheet

Lifetime green impact metrics

	Additional lifetime green impact from investments made in 2021/22	Lifetime green impact from all investments made to date
Greenhouse gas emissions avoided (kt CO ₂ e)	6,720	212,093
Renewable energy generated (GWh)	12,119	590,318
Energy demand reduced (GWh)	0	3,959
Materials recycled (kt)	0	38,452
Waste to landfill avoided (kt)	0	125,319
Energy storage capacity (MW/MWh)	190/200	253/540

Reduction of greenhouse gas (GHG) emissions

Estimated lifetime GHG emissions reduction of new GIG investments in the reporting period	Year ended 31.03.22 kilotonnes CO ₂ e	Year ended 31.03.21 kilotonnes CO ₂ e
Offshore wind	0	0
Waste	0	1,929
Energy efficiency	0	0
Bioenergy	0	0
Onshore wind	2,359	13,546
Solar (note 2.a)	4,361	2,131
Total	6,720	17,606

Estimated lifetime GHG emissions reduction of all GIG investments to date	Year ended 31.03.22 kilotonnes CO ₂ e	Year ended 31.03.21 kilotonnes CO ₂ e
Offshore wind	68,282	70,415
Waste (note 1a)	37,721	37,639
Energy efficiency	2,277	2,277
Bioenergy (note 4)	66,202	67,302
Onshore wind	29,207	26,450
Solar	8,404	4,091
Total	212,093	208,174

Generation of renewable energy

Estimated lifetime renewable energy generated by new GIG investments in the reporting period	Year ended 31.03.22 GWh	Year ended 31.03.21 GWh
Offshore wind	0	0
Waste	0	4,448
Energy efficiency	0	0
Bioenergy	0	0
Onshore wind	2,788	23,567
Solar (note 2.a)	9,331	3,690
Total	12,119	31,705

Estimated lifetime renewable energy generated by all GIG investments to date	Year ended 31.03.22 GWh	Year ended 31.03.21 GWh
Offshore wind	158,603	158,532
Waste (note 1a)	72,613	70,466
Energy efficiency	1,265	1,265
Bioenergy	220,582	222,359
Onshore wind	118,788	115,437
Solar	18,467	9,147
Total	590,318	577,206

Energy demand reduction

Estimated lifetime energy demand reduced by new GIG investments in the reporting period	Year ended 31.03.22 MWh	Year ended 31.03.21 MWh
Electricity	0	0
Heating fuels	0	0
Total	0	0

Estimated lifetime energy demand reduced by all GIG investment to date	Year ended 31.03.22 MWh	Year ended 31.03.21 MWh
Electricity	1,800,459	1,800,459
Heating fuels	2,158,799	2,158,799
Total	3,959,258	3,959,258

Recycling of materials (note 1.a)

Estimated lifetime materials consumption avoided through materials recycling by new GIG investments in the reporting period	Year ended 31.03.22 tonnes	Year ended 31.03.21 tonnes
Compost	0	0
Digestate (PAS 110)	0	0
Compost-like output	0	0
Plastics-mixed	0	0
Ferrous metals	0	90,000
Non-ferrous metals	0	190,000
Paper/card	0	0
Glass	0	0
Mineral aggregates	0	1,680,775
Waste electrical and electronic equipment (WEEE)	0	0
Other	0	0
Total	0	1,960,775

Estimated lifetime materials consumption avoided through materials recycling by all GIG investments to date	Year ended 31.03.22 tonnes	Year ended 31.03.21 tonnes
Compost	987,642	987,642
Digestate (PAS 110)	7,466,156	7,466,156
Compost-like output	1,128,809	1,128,809
Plastics-mixed	704,050	704,050
Ferrous metals	1,412,638	1,373,718
Non-ferrous metals	789,200	753,832
Paper/card	654,299	654,299
Glass	9,424	9,424
Mineral aggregates	19,119,170	18,488,365
Waste electrical and electronic equipment (WEEE)	34,328	34,328
Other	6,146,348	6,146,348
Total	38,452,064	37,746,971

Avoidance of waste to landfill (note 1.a)

Estimated lifetime waste to landfill avoided by new GIG investments in the reporting period	Year ended 31.03.22 tonnes	Year ended 31.03.21 tonnes
Biodegradable waste	0	6,742,000
Non-biodegradable waste	0	1,028,225
Total	0	7,770,225

Estimated lifetime waste to landfill avoided by all GIG investments to date	Year ended 31.03.22 tonnes	Year ended 31.03.21 tonnes
Biodegradable waste	84,441,591	82,278,651
Non-biodegradable waste	40,877,690	40,302,097
Total	125,319,281	122,580,748

Energy storage capacity

Estimated lifetime energy storage capacity added by new GIG investments in the reporting period	Year ended 31.03.22 tonnes	Year ended 31.03.21 tonnes
Electrical power capacity (MW)	190	0
Electrical energy capacity (MWh)	200	0

Estimated lifetime energy storage capacity added by all GIG investments to date	Year ended 31.03.22 tonnes	Year ended 31.03.21 tonnes
Electrical power capacity (MW)	253	63
Electrical energy capacity (MWh)	540	340

GIG balance sheet:

Notes on the statements

YEAR-ON-YEAR CHANGES TO ESTIMATED LIFETIME GREEN IMPACT

The table on the following page shows how the lifetime green impact at the end of 2021/22 compares to that at the end of 2020/21, and provides a breakdown of the changes. In summary, these changes in lifetime green impact were caused by:

1. Adjustments/corrections to prior reporting period

- a. The project Avertas (energy from waste, Australia) has been reviewed and it has been determined that the project, although meeting the requirements of the Green Investment Policy, was not, at any point, in GIG's portfolio and had been developed solely by Macquarie Capital. As such, it has been deemed to be ineligible for continued Green Impact Reporting by GIG and has, therefore, been removed from the green impact statements.
- b. Non-material corrections:
 - GIG's approach to green impact allocation for projects acquired when already operational has been amended to align with the attribution factor for equity investment in private companies defined in the PCAF Global GHG Standard. The new methodology is detailed in GIG's Green Impact Reporting Criteria. This adjustment has affected the green impact estimates of leveraged assets that were acquired as operational.
 - Investments made in the prior reporting period but had been erroneously omitted from last year's report as GIG invested in and developed these assets beyond FID, which is the milestone for securing the project's financing prior to construction and the point at which projects are reported in the green impact statements. These include a portfolio of solar projects in the US (Calibrant), a portfolio of solar projects in India (Vibrant Energy) and a solar project in the UK (Nottingham, Cero C&I).
 - One investment (Markbygden) had an incorrect GHG emissions conversion factor applied. This has been corrected to align with the project's commercial operations date. For more information on how the GHG emissions conversion factor is applied, please see the GIG Green Impact Reporting Criteria.
 - Impact data reported in last year's report was amended where new information was received

to indicate a correction was required, such as a correction to a forecast.

2. New investments

- a. Projects incorrectly categorised as new investments in last year's report (Cero C&I)
- b. New investments made in this period. These include solar projects (Telcontar, India; Pontinia, Italy; PGP2, Malaysia; Nonthaburi, Thailand; Brighthouse and Larks Green, UK; Halliburton, Javits Hybrid, South Portland and Lena Winslow, US), battery storage projects (Hazelwood, Australia; Maldon, UK) and an onshore wind project in Poland (Radzyn).

3. Existing projects' variation of performance/reforecasts from last year forecasts

- Where project performance varies >10 per cent from forecasts, GIG takes an average of past performance and, where relevant, pre-operational forecasts to estimate the remaining lifetime green impact.
- Adjustment of forecast green impact due to an update to the IFI greenhouse gas baseline. The baseline used for evaluating greenhouse gas reduction from renewable energy projects and energy efficiency projects is defined by the IFI Harmonization of Standards for GHG Accounting. This baseline was updated on 1 December 2021 and so all projects that commence operations after this date adopt the latest version (v3.2) dataset. To provide an accurate reflection of GIG's expected impact, the greenhouse gas reduction from GIG's investments as of 2020/21 has been re-estimated.
- Earls Gate (energy from waste project, UK) had a permit increase, resulting in an increase to the waste throughput forecast and a consequent increase in green impact.

4. GIG is aware of the sustainability concerns raised regarding the biomass feedstock supply to Drax Power Station ('Drax') by the BBC programme 'Panorama' in October 2022. In 2012, the UK Green Investment Bank committed to a defined use-of-proceeds corporate loan to Drax to finance the conversion of three of six coal-fired units at Drax to 100% biomass. Upon refinancing of the loan, the loan

facility was terminated and repaid in 2017. As the loan was provided at FID, in line with the GIG Green Impact Reporting Criteria, GIG reported 100% of the total estimated lifetime green impact, and continues to report this in the Green Impact Statements (under “Estimated lifetime GHG emissions reduction of all investments to date”). Drax’s estimated lifetime green impact makes a material contribution to GIG’s reported green impact from all investments to date, estimated at 27% of GIG’s reported lifetime green

impact, and therefore the allegations made in the Panorama programme are materially relevant to GIG’s reported green impact metrics. As such, we have reviewed relevant information including the allegations themselves, Drax’s public responses and the sustainability safeguards that had been put in place during the time of GIG’s investment. We have concluded that there is not sufficient evidence for us to believe that the reported estimated lifetime green impact for the project is materially incorrect.

Estimated lifetime green impact of all GIG investments to date – year on year changes	GHG emissions reduction kilotonnes CO ₂ e	Renewable energy generated GWh	Energy demand reduced MWh	Materials recycled tonnes	Waste to landfill avoided tonnes	Energy storage capacity MW/MWh
Year ended 31.03.21	222,009	589,691	3,959,258	40,187,771	134,076,748	
Revised 31.03.21 following corrections (note 1)	208,174	577,206	3,959,258	37,746,971	122,580,748	63/340
New investments made in the period (note 2.b)	6,720	12,119	0	0	0	190/200
Projects cancelled in the period	0	0	0	0	0	0
Removal of estimated remaining lifetime of assets exited in the period that were acquired as operational	0	0	0	0	0	0
Variation of forecast remaining lifetime and actuals from last year’s forecast (note 3)	(2,801)	993	0	705,093	2,738,533	0
Year ended 31.03.22	212,093	590,318	3,959,258	38,452,064	125,319,281	253/540

Funds

MGREF1 and MGREF2 lifetime green impact metrics

		Additional lifetime green impact from investments made in 2021/22	Lifetime green impact from all investments made to date
MGREF1	Greenhouse gas emissions avoided (kt CO ₂ e)	0	9,623
	Renewable energy generated (GWh)	0	22,209
MGREF2	Greenhouse gas emissions avoided (kt CO ₂ e)	243	1,352
	Renewable energy generated (GWh)	1,886	4,105

Reduction of greenhouse gas (GHG) emissions

Estimated lifetime GHG emissions reduction of new GIG fund investments in the reporting period	Year ended 31.03.22 kilotonnes CO ₂ e
MGREF1	0
MGREF2	243

Estimated lifetime GHG emissions reduction of all GIG fund investments to date	Year ended 31.03.22 kilotonnes CO ₂ e
MGREF1	9,623
MGREF2	1,352

Generation of renewable energy

Estimated lifetime renewable energy generated by new GIG fund investments in the reporting period	Year ended 31.03.22 GWh
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MGREF1	0
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MGREF2	1,866
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Estimated lifetime renewable energy generated by all GIG fund investments to date	Year ended 31.03.22 GWh
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MGREF1	22,209
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MGREF2	4,105
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Funds: Notes on the statements

MGREF1 and MGREF2 both have a stake in the Gwynt y Môr offshore wind farm. Green impact is allocated to each fund with no double counting. For further information as to how GIG allocates the green impact of its investments, please see the GIG Green Impact Reporting Criteria.

Independent assurance report

Independent Assurance Report to the UK Green Investment Bank Limited on Green Impact Data within the Progress Report in relation to Green Impact Data reported for projects held on Green Investment Group's balance sheet.

To: the Directors of UK Green Investment Bank Limited

We have been engaged by the Directors of the UK Green Investment Bank Limited ("GIB") to conduct a limited assurance engagement over specified Assured Disclosures. The Assured Disclosures comprise Green Investment Group ("GIG")'s performance-related Green Impact Data ("Green Impact Data") within the GIG Progress Report for the year ended 31 March 2022.

The following Green Impact indicators were subject to our assurance, for reporting of "Lifetime green impact from all investments made to date" and "Additional lifetime green impact from investments made in 2021/22":

- Greenhouse gas (GHG) emissions reduction (kilotonnes CO₂e)
- Renewable energy generated (GWh)
- Energy demand reduced (GWh)
- Materials consumption avoided through materials recycling (kilotonnes)
- Waste to landfill avoided (kilotonnes)
- Energy storage capacity (MW / MWh)

Together these constitute the "Assured Disclosures".

Our conclusion

Based on our work as described in this report, nothing has come to our attention that causes us to believe that the Assured Disclosures, which have been prepared in accordance with the GIG Green Impact Reporting Criteria (the "Reporting Criteria"), materially misstate the Green Impact for the year ended 31 March 2022. The data have been prepared on the basis of the methodology set out in the respective GIG Reporting Criteria which can be seen on the GIG website.

Emphasis of matter

We draw your attention to Note 4, of Notes to the Statements, which explains that the indicator for GIG's 'Estimated lifetime GHG emissions reduction of all GIG investments to date', includes the lifetime impact of a corporate use-of-proceeds loan previously made to Drax Power Station by the UK Green Investment Bank. Management have set out their assessment of allegations by the BBC's Panorama programme about Drax's Canadian biomass sourcing operations which would, if true, result in higher GHG emissions over the lifecycle of wood pellet production and use than those estimated by GIG, and their consideration of the impact of these allegations on the reported indicator. Our conclusion is not modified in this respect.

Respective responsibilities of the directors and assurance provider

The Directors are responsible for preparing the GIG Progress Report.

Our responsibility is to express a conclusion on the Assured Disclosures based on our procedures. We conducted our engagement in accordance with International Standard on Assurance Engagements ISAE 3000 Assurance Engagements Other than Audits or Reviews of Historical Financial Information ("ISAE 3000 (Revised)"), issued by the International Auditing and Assurance Standards Board ("IAASB"), in order to state whether anything had come to our attention that causes us to believe that the Assured Disclosures have not been prepared, in all material respects, in accordance with the applicable criteria.

We apply International Standard on Quality Control 1 and, accordingly, maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our engagement provides limited assurance as defined in ISAE 3000 (Revised). 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.

Our procedures consisted primarily of:

- interviewing managers at GIG's offices, including those with operational responsibility for the preparation of the Assured Disclosures;
- evaluating the processes and controls for managing, measuring, collating and reporting the Assured Disclosures, including the application of the methodology within the Reporting Criteria to underlying assumptions;
- testing a representative sample of Green Impact Data, selected on the basis of their inherent risk and materiality to the Green Impact Data. The focus of our testing is the work undertaken by GIG to prepare the Assured Disclosures based on information supplied by GIG's clients, projects or fund managers or collected within GIG. We have not carried out any work to verify that information, nor have we conducted site visits; and
- conducting an evaluation of management's response to allegations made by the BBC Panorama documentary, "The Green Energy Scandal", alongside publicly available information to consider the potential impact on the Assured Disclosures.

Our work has been undertaken so that we might state to the Company those matters we are required to state to them in this report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the company's members as a body for our work, this report, or for the conclusions we have formed.

Our report is made solely to the GIB's Directors, as a body, in accordance with ISAE 3000 (Revised). Our work has been undertaken so that we might state to GIB those matters we are required to state to them in this report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the company's members as a body for our work, this report, or for the conclusions we have formed.

Inherent limitations

Since the Estimated Lifetime Green Impact Data are based on assumptions about the future which cannot be predicted with certainty, as with any predictions about the future, the actual future Green Impact Data may be more or less than the stated Estimated Lifetime Data.

GIG does not receive project data or conduct further estimations following the exit date from an investment.

With respect to disposals, GIG processes do not require reconciliation between: the operating assumptions on which Estimated Lifetime Green Impact Data is based; and asset actual or expected performance data (if any) stated in investment disposal documentation. Consequently we rely on written management representations to confirm that Estimated Lifetime Green Impact Data with respect to disposed-of investments is based on the best information available to GIB management at the point of disposal.

Independence

In conducting our engagement, we have complied with the independence and other ethical requirements of the Code of Ethics of the Institute of Chartered Accountants of England and Wales which include the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.



Deloitte LLP

London, United Kingdom
1 December 2022

Independent Assurance Report to the UK Green Investment Bank Limited on Green Impact Data within the Progress Report in relation to Green Impact Data reported for MGRF1 and MGRF2.

To: the Directors of UK Green Investment Bank Limited

We have been engaged by the Directors of the UK Green Investment Bank Limited ("GIB") to conduct a limited assurance engagement over specified Assured Disclosures. The Assured Disclosures comprise performance-related Green Impact Data ("Green Impact Data") associated with two Green Investment Group ("GIG") branded funds, MGRF1 and MGRF2 ("the Funds"), within the GIG Progress Report for the year ended 31 March 2022.

The following Green Impact indicators were subject to our assurance, for reporting of "Lifetime green impact from all investments made by the fund to date" and "Additional lifetime green impact from investments made by the fund in 2021/22":

- Greenhouse gas (GHG) emissions reduction (kilotonnes CO₂e)
- Renewable energy generated (GWh)
- Together these constitute the "Assured Disclosures".

Our conclusion

Based on our work as described in this report, nothing has come to our attention that causes us to believe that the Assured Disclosures, which have been prepared in accordance with the GIG Green Impact Reporting Criteria (the "Reporting Criteria"), materially misstate the Green Impact for the year ended 31 March 2022. The data have been prepared on the basis of the methodology set out in the respective GIG Reporting Criteria which can be seen on the GIG website.

Respective responsibilities of the directors and assurance provider

The Directors are responsible for preparing the GIG Progress Report.

Our responsibility is to express a conclusion on the Assured Disclosures based on our procedures. We conducted our engagement in accordance with International Standard on Assurance Engagements ISAE 3000 Assurance Engagements Other than

Audits or Reviews of Historical Financial Information ("ISAE 3000 (Revised)"), issued by the International Auditing and Assurance Standards Board ("IAASB"), in order to state whether anything had come to our attention that causes us to believe that the Assured Disclosures have not been prepared, in all material respects, in accordance with the applicable criteria.

We apply International Standard on Quality Control 1 and, accordingly, maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our engagement provides limited assurance as defined in ISAE 3000 (Revised). 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.

Our procedures consisted primarily of:

- interviewing managers at GIG's offices, including those with operational responsibility for the preparation of the Assured Disclosures;
- evaluating the processes and controls for managing, measuring, collating and reporting the Assured Disclosures, including the application of the methodology within the Reporting Criteria to underlying assumptions; and
- testing a representative sample of projects held by the Funds, selected on the basis of their inherent risk and materiality to the Funds' Green Impact Data. The focus of our testing is the work undertaken by GIG to prepare the Assured Disclosures based on information supplied by GIG's clients, projects or fund managers or collected within GIG. We have not carried out any work to verify that information, nor have we conducted site visits.

Our report is made solely to the GIB's Directors, as a body, in accordance with ISAE 3000 (Revised). Our work has been undertaken so that we might state to

GIB those matters we are required to state to them in this report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the company's members as a body for our work, this report, or for the conclusions we have formed.

Inherent limitations

Since the Estimated Lifetime Green Impact Data are based on assumptions about the future which cannot be predicted with certainty, as with any predictions about the future, the actual future Green Impact Data may be more or less than the stated Estimated Lifetime Data.

Our work has evaluated the application of principles set out in GIG's Reporting Criteria to projects included within the Funds' reporting of Green Impact Data. We have not conducted a re-evaluation of the continued relevance or accuracy of historical assumptions made by GIG or third-party advisors prior to projects being acquired by the Funds.

GIG does not receive project data or conduct further estimations following the exit date from an investment.

With respect to disposals, GIG processes do not require reconciliation between: the operating assumptions on which Estimated Lifetime Green Impact Data is based; and asset actual or expected performance data (if any) stated in investment disposal documentation. Consequently we rely on written management representations to confirm

that Estimated Lifetime Green Impact Data with respect to disposed-of investments is based on the best information available to GIB management at the point of disposal.

Independence

In conducting our engagement, we have complied with the independence and other ethical requirements of the Code of Ethics of the Institute of Chartered Accountants of England and Wales which include the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.



Deloitte LLP

London, United Kingdom
1 December 2022

Keeping in touch

We regularly share updates about our activities on our website and social media channels, as well as highlighting the work of other organisations and initiatives that we are involved in.



Important notice and disclaimer

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