



Green  
Investment  
Group

# Progress Report 2020

Accelerating the green transition

October 2020



# About this report

Welcome to Green Investment Group's (GIG) Progress Report 2020.

This report gives an overview of GIG's recent activity, covering the period from September 2019 to August 2020, unless we've indicated otherwise. You'll find our previous progress reports on our website, and you can keep up to date with our activities in real time on our website and social media channels.

You can also learn more about our parent company, Macquarie Group, on pages 26-28, including details of Macquarie's sustainability reporting and climate-related financial disclosures.





# About us

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We specialise in developing and investing in new green infrastructure, powering clients with green electricity and other energy products, and providing green advisory services.

We're a mission-led organisation – dedicated to accelerating the green transition. Our track record, expertise and capability make us a global leader in our field.

We began life in 2012 as the UK Green Investment Bank, established by the UK Government and the first institution of our type in the world. Since 2017 we've been owned by Macquarie Group, a diversified financial group employing over 15,000 people. Working across the globe, Macquarie provides clients with asset management and finance, banking, advisory, risk and capital solutions across debt, equity and commodities.

GIG is Macquarie's primary vehicle for principal investment in green energy projects, and home to one of the world's largest teams of green energy investment specialists. Along with our operating platforms, we have investments or operations in over 25 markets, a team of more than 450 people and a global development pipeline of over 25 GW.



# Welcome from our Chair, Dan Wong

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Macquarie acquired GIG with an ambition to globalise the world's first dedicated green finance institution. Over that time GIG has grown in scope and scale and it's now an integral part of Macquarie's wider sustainable finance capability, capacity and ambition.

GIG is the business through which Macquarie makes principal investments in the green economy, globally. This report details how we are doing that. We have met or exceeded all the commitments we made when we acquired the UK Green Investment Bank in 2017. We have grown the business globally and built new capabilities to further its founding mission. That mission ensures that GIG is, and will always be, a business focused on delivering the net zero economy, and fully aligned to the Paris Agreement.

GIG's work is amplified by Macquarie's other businesses in advising clients, asset management, and trading in environmental markets. Together, these complementary activities uniquely position Macquarie as an ideal partner to companies, cities, and countries to help them achieve their ever more ambitious climate and energy goals. Climate change presents the opportunity and challenge of our generation and this is the decisive decade. We stand ready, with the rest of Macquarie Group, to tackle the new challenges brought about by the COVID-19 pandemic alongside the well understood threats from climate change, seizing the opportunity to build back better.



**Dan Wong**

Co-Head, Macquarie Capital and Chair, GIG





# Introduction from our Global Head, Mark Dooley

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This progress report marks three years since we created a new business. GIG is now one of the largest renewable energy developers and investors on the planet – a mission-driven specialist business designed **to accelerate the green transition.**

In this report we'll chart the progress we've made and the challenges we expect to tackle as we pursue our mission.





# Introduction from our Global Head, Mark Dooley

2020 marks the start of the ‘Decisive Decade’ – the decade in which our actions will determine our ability to adapt to our already changing climate and deliver the world’s net zero ambitions.

Yet, the first year of what may be the most important decade in our lifetime for the health of our planet, has been defined by a series of catastrophic environmental events and the COVID-19 global pandemic. As we collectively battle the public health crisis and adopt radically new ways of living and working, the resulting economic crisis has reinforced the scale of the climate and decarbonisation challenge, the risks of a disruptive energy transition and the capacity for unprecedented global and national action.

With trillions of dollars about to be put to work through economic recovery packages, we can be sure that our response to the public health crisis of 2020 will ultimately determine the state of the planet in 2050. It is therefore critical that economic recovery packages are fully aligned to national and international sustainability commitments.

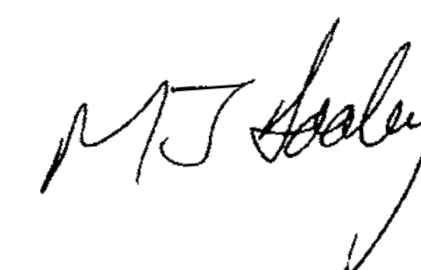
As the world changes around us, our mission remains our north star and dictates our priorities:

- **Developing and investing:** we are developing and financing renewable energy projects, delivering new capacity and helping bring down the cost of low carbon power.
- **Powering clients:** we are helping companies achieve their sustainability goals by providing new green power to meet their energy needs.
- **Green advisory services:** we are helping corporate and governmental clients develop new approaches to accelerate and measure their transition through impact reporting.

All of the activity described in this report was achieved in partnership and is the product of aligned objectives across the public and private sectors – the public sector enabling and supporting where necessary, and the private sector delivering solutions at scale. We believe this combination is best positioned to delivering change at the scale and pace required.

For that reason, I would like to thank all of our partners from the UK to Taiwan, to the US and Australia, from our government partners to our industrial partners, to the long-term investors who bring capital to the assets we create. To our colleagues across Macquarie Group who enable GIG to do what we do, and complement our activities with world-class expertise in areas like corporate advisory, asset management, commodities and risk management.

This decisive decade has begun in a way that few of us would have imagined. It’s yet unclear whether our task has become harder or whether we will find a response to one crisis that will help us in another. At GIG we are stubborn optimists. We believe we can build back better and we stand ready to play our part.



**Mark Dooley**

Global Head, GIG



# A message from Christiana Figueres

We enter this most decisive decade in human history forced by the impacts of climate change to ensure the choices we make today will shape a secure world for this generation and all that follow. We can turn the current economic pressures into opportunities to accelerate the promise of the Paris Agreement – a safe, thriving, bustling global society – by shifting our investments to align with the goal for net zero by 2050 or earlier, and facilitating a halving of emissions by 2030.

Investing in long-lived infrastructure is an opportunity to tackle the climate crisis, and with the same brush strokes, open the pathways for rebuilding our global economy on healthier foundations. In the next ten to fifteen years it is estimated that more will be invested in long-lived infrastructure, than the entire stock that exists today.

These investments are not simply projects. They are enabling a world that is not merely possible in the future – it's in our grasp now. But pace matters more than ever.

There is ample evidence that green infrastructure investments have broader based benefits and offer greater returns. The new understanding is a marked departure from traditional investment paradigms and GIG has been at the heart of the transformation. This confidence can now unlock finance decisions that align the infrastructure we will build with the needs of global health, economic security and climate action.

The GIG progress report reflects the increasing momentum toward flourishing future-facing investments that are re-shaping how we build our cities, produce and use energy, transport people and goods and manage our land and food system to realise the promise of the Paris Agreement.

## Christiana Figueres

Executive Secretary of the United Nations Framework Convention on Climate Change from 2010 until 2016 and founding partner of Global Optimism





01.

# Our year in review

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# Our global impact



- Markets where GIG is active
- Office locations

## OUR RECENT ACTIVITY

**£2.9 bn**  
capital committed or  
arranged to support  
green energy projects

**250+**  
projects  
in development  
and construction

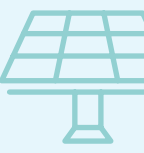
## OUR GLOBAL REACH AND IMPACT

  
**450+**  
staff  
operating under  
the GIG brand\*

  
**25+**  
markets  
with investments  
or operations

  
**9+ GW**  
operational  
projects supported†

  
**£20+ bn**  
total capital committed  
and arranged to support  
green energy projects§

  
**3+ GW**  
of renewable energy  
capacity supported by  
GIG power purchase  
agreements (PPAs)‡

  
**25+ GW**  
global development  
pipeline\*\*

\*Includes Macquarie Group employees operating under the GIG brand and operating platform employees, as defined below. †Combining historic activity where UK Green Investment Bank (GIB), GIG or Macquarie Capital have contributed equity investment or debt to projects that have now entered operations. §Combining historic activity where GIB, GIG or Macquarie Capital have committed their own funds or arranged third-party capital and / or financing. ‡Total capacity of renewable energy projects in development, construction or operation where GIG or Macquarie Capital (either directly or via operating platforms) have contributed equity investment, which is supported by PPAs structured by GIG, Macquarie Capital or its operating platforms. \*\*Includes projects being developed directly by GIG or through operating platforms. Operating platforms are companies operating as operationally segregated subsidiaries of GIG or companies where GIG has entered a joint venture with another partner.



# Our green impact



## GREENHOUSE GAS EMISSIONS AVOIDED

GREEN IMPACT FROM INVESTMENTS IN THE YEAR<sup>1</sup>

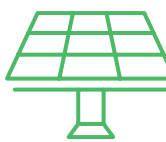
**37,112** kt CO<sub>2</sub>e

equivalent to removing nearly half a million cars from the road<sup>2</sup>

GREEN IMPACT FROM ALL INVESTMENTS TO DATE<sup>3</sup>

**198,241** kt CO<sub>2</sub>e

equivalent to removing 2.5m cars from the road<sup>2</sup>



## RENEWABLE ENERGY GENERATED

**93,889** GWh

equivalent to meeting the electricity needs of nearly one million homes<sup>2</sup>

**568,243** GWh

equivalent to meeting the electricity needs of 5.8m homes<sup>2</sup>



## WASTE TO LANDFILL AVOIDED

**10,178** kt

equivalent to eliminating the landfill waste of over 350,000 households<sup>2</sup>

**115,843** kt

equivalent to eliminating the landfill waste of 4.9m households<sup>2</sup>

## EXAMPLE PROJECTS

### Formosa 2, Taiwan

**18,740** kt CO<sub>2</sub>e  
equivalent to removing 240,000 cars from the road<sup>2</sup>

### Buheii, Norway

**7,000** GWh  
equivalent to meeting the electricity needs of 18,000 homes<sup>2</sup>

### Newhurst, UK

**10,178** kt  
equivalent to eliminating the landfill waste of over 350,000 households<sup>2</sup>

<sup>1</sup>All green impact data is for the period 1 April 2019 to 31 March 2020 and reported on a 'projected lifetime' basis. <sup>2</sup>For 25 years, calculation based on UK benchmark numbers. <sup>3</sup>Combining historic activity where GIB, GIG or Macquarie Capital have contributed equity or debt.



# Our project activity

This year GIG has committed or arranged £2.9bn across our global portfolio of over 250 projects, further cementing our position as one of the world's leading renewable energy investors and developers.

Despite challenging circumstances caused by the COVID-19 pandemic, we have continued to make projects happen.

During the period from September 2019 to August 2020, we invested across a wide spectrum of renewable energy technologies: from onshore wind projects in Poland and the Nordics; solar projects in the UK and the US; to UK waste projects; and offshore wind projects in Taiwan and Korea. We also continued to explore new opportunities in cutting-edge technologies such as battery storage, floating offshore wind, hydrogen, and carbon capture and storage.

Our projects have achieved major milestones with the inauguration of the Formosa 1 offshore wind farm in Taiwan, the commissioning of East Anglia ONE onshore wind farm in the UK, and the successful completion of the development phase of the Murra Warra II wind farm in Victoria, Australia.

We've continued to build on our commitment to invest across the project lifecycle, forming partnerships with Total in Korea to develop 2.3 GW of floating offshore wind; with Enso Energy in the UK to develop an initial 1 GW of subsidy-free solar and battery capacity – one of the largest portfolios of its kind; and with RIDG to compete in the upcoming Scottish offshore wind leasing round.

We've also structured a further 14 PPAs in the last 12 months, bringing the total capacity of renewable energy projects underpinned by a GIG PPA to over 3 GW.

The following sections explore some of these projects in more detail.





# Our project activity



## Rooftop solutions for the UK high street

In October we announced our backing of Tesco's UK-wide solar installation programme. This will see us install, own, operate and maintain solar PV systems at a number of retail sites, with Tesco paying an agreed price for the electricity that the systems generate under a PPA. The agreement will help Tesco work towards its commitment to generate 10 per cent of its energy needs onsite by 2030.

[Read more](#)



## Accelerating Taiwan's offshore wind industry

This year saw Formosa 1 become fully operational, Formosa 2 reach financial close and JERA partnering with us in the development of Formosa 3. Together, the projects will provide up to 2.5 GW of renewable energy capacity, powering the equivalent of up to two million Taiwanese homes.

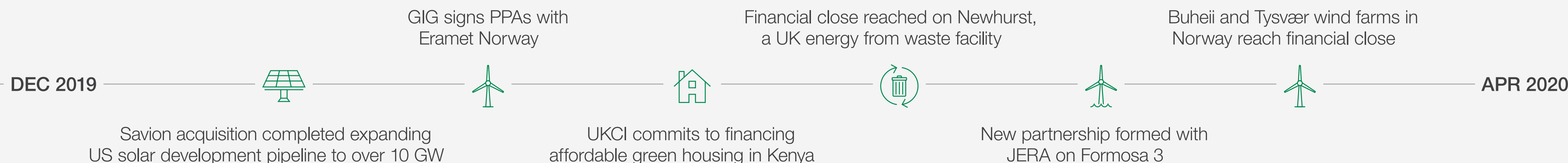
[Read more](#)



## Financing affordable green housing in Kenya

In January UK Climate Investments (UKCI), our joint venture with the UK Government, committed financing for the construction of affordable green housing in Kenya. The project aims to deliver 10,000 energy and water efficient homes in Nairobi, whilst supporting a new green asset class for local investors.

[Read more](#)





## Our project activity



### Recovering energy from waste in the UK

In February we reached financial close on a state-of-the-art energy from waste facility in Leicestershire, England. The facility will provide thermal treatment for 350,000 tonnes of non-recyclable waste per year. The project is part of a pipeline of waste treatment facilities we are developing with Covanta in the UK, which are set to treat approximately two million tonnes of residual waste per annum.

[Read more](#)



Photo: Spectacular Norway AS

### Powering Norway's industrials with green energy

In April we announced financial close on the Tysvær and Buheii onshore wind farms in Norway. When complete, the projects will provide Eramet's Norwegian smelters with predictably priced power through PPAs.

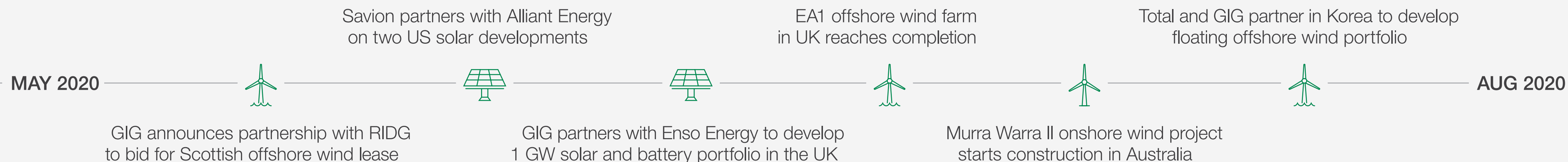
[Read more](#)



### Bringing solar power to the US

In May, Savion announced the sale of two solar projects in Wisconsin to Alliant Energy, which together will produce enough energy to power approximately 55,000 homes. Savion has now executed PPAs for over 1 GW of solar energy assets, providing US-based corporates with reliable and cost competitive renewable power. Savion is a GIG portfolio company operating on a stand-alone basis.

[Read more](#)





# Our WHSES approach

As an investor, developer, asset manager and owner of businesses, we treat workplace health, safety, environment and social (WHSES) matters as an opportunity to add value beyond risk management.

As part of Macquarie Group, we have been developing our WHSES programme to ensure it is appropriate for GIG's activities, and have created a multi-pronged approach focused on six key areas: governance; communication; resourcing; community; reporting; and technology enablement. Our WHSES management system includes early stage planning through due diligence, investment monitoring, and incident response management.

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

## RESPONDING TO COVID-19

The welfare, health and safety of our people has been and continues to be our top priority during the COVID-19 global pandemic. We have provided COVID-19 health and safety training to principal directors and deal teams which covers employee safety guidance, as well as safety guidance for managing our principal investments. We have also incorporated weekly COVID-19 check-in meetings with the principal directors of our high-risk assets to monitor status of COVID-19 on-site, share lessons learned, and provide support and guidance.



## Engage

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



## Empower

- We empower WHSES leadership with **integrity**, influencing both 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



## Ensure

- 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



# 02. What we do

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Our business strategy is built around three key priorities, designed to help us meet the needs of this fast-changing market and accelerate the green transition.

The next few pages of this report provide an overview of these priorities and showcase our recent highlights.



# Developing and investing

One of the biggest challenges of the energy transition lies not in access to capital, but in creating a pipeline of investible projects. That's why we are developing assets and delivering innovative capital structuring solutions to make projects happen, utilising our expertise from the first dollar to the first electron.

The volume of capital available for green energy investment is at a record high. Despite the impacts of COVID-19, the first half of 2020 delivered the strongest fundraising period for infrastructure funds since the global financial crisis.<sup>4</sup>

Total renewable energy investment in the first half of 2020 was up 5 per cent on the same period in 2019, and offshore wind financings had their best ever results, closing the first half of 2020 above 2019's full year results.<sup>5</sup>

While it is clear there's capital available for proven technologies located in developed economies, challenges continue in creating high-quality assets in which this capital can be put to work, in financing new technologies and in increasing investment in emerging economies. GIG is tackling each of these challenges head-on.



## Developing and investing

The strength of GIG's in-house development capabilities are well illustrated through our flagship Formosa offshore wind portfolio in Taiwan. In a major milestone for Taiwan's burgeoning offshore wind market, Taiwan's first commercial scale offshore wind farm, Formosa 1, became fully operational in October 2019. This was swiftly followed by its 376 MW sister development, Formosa 2, reaching financial close. GIG and partner Swancor secured funding of NT\$62.4bn (£1.6bn) from a consortium of 20 international and local Taiwanese institutions for the project, demonstrating the growing confidence in the market and in GIG as a developer.

In onshore wind, development was completed and financial close achieved on the Buheii and Tysvær projects in Norway. GIG brought these projects together, alongside the Hornamossen wind farm in Sweden, to be refinanced as a 170 MW portfolio. By aggregating these projects, GIG was able to achieve more favourable terms on debt financing, ultimately securing a total debt package of €300m – helping lower the cost of capital for the projects, a significant part of the total project costs.

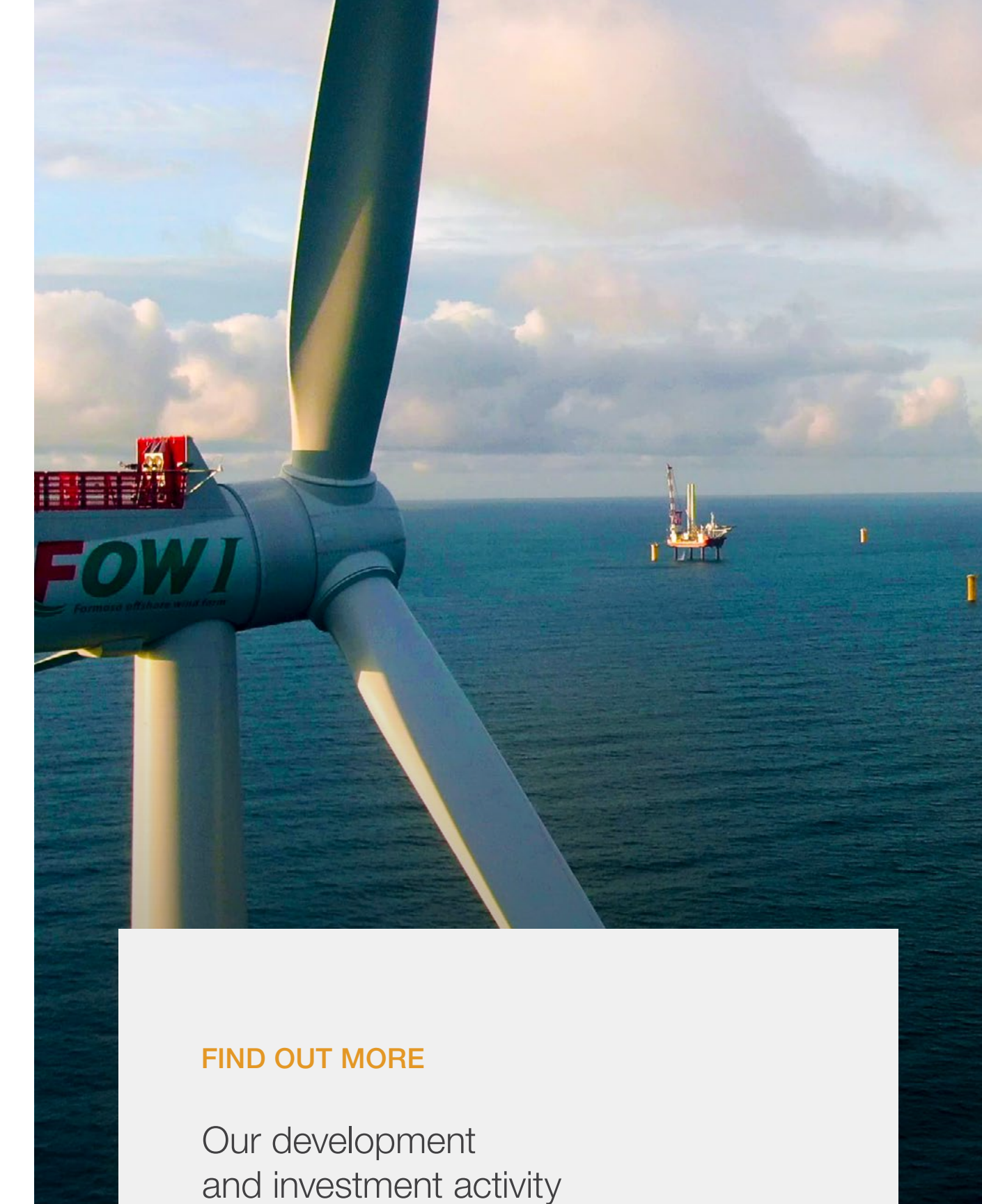
As GIG's in-house expertise grows, partnerships continue to be a key feature of our development activities, and 2020 saw us join forces with some of the industry's most dynamic companies. We have partnered with global energy leader Total to deliver a 2.3 GW portfolio of floating offshore wind projects in Korea; Renewable Infrastructure Development

Group (RIDG) to bid into the next round of seabed leasing for offshore wind development off the coast of Scotland; and Enso Energy to develop one of the UK's largest portfolios of subsidy-free solar and battery projects.

From floating offshore wind in Korea to battery storage in the UK, GIG is creating commercial solutions for the next generation of clean energy technologies. We have been developing a green hydrogen project in British Columbia with our consortium partner Renewable Hydrogen Canada. The project plans to use British Columbia's vast renewable resource to create renewable hydrogen which will be injected into the gas network and blended with natural gas to be used to meet the clean gas target in the Province. Whilst this is an early project in the sector, we expect significant activity in this area over the coming years.

Through our joint venture with the UK Government in UKCI, GIG is supporting the energy transition and climate ambitions of emerging market countries across Africa and in India. You can read more about that activity on page 23.

As countries across the world develop unprecedented economic stimulus packages in the wake of the COVID-19 pandemic, a significant focus must be on investment aligned to Paris Agreement outcomes. GIG is ready to support that effort as a developer of new projects and an investor in new technologies and markets.



### FIND OUT MORE

Our development and investment activity

Short film on our Formosa offshore wind projects

Investing in floating offshore wind in Korea

Working at GIG



# Powering clients

Corporate PPAs have become a key driver of growth in the number and size of renewable energy assets, with private and public sector organisations seeking new green power solutions. That's why we are working with clients to structure tailored PPA solutions, often tied to new project development and onsite generation.

The growth of corporate PPAs has been one of the defining characteristics of the renewable energy market during 2019/20. According to BloombergNEF, corporations bought a record amount of clean energy through PPAs in 2019. 19.5 GW of clean energy demand was contracted by more than 100 corporations across 23 different countries in 2019 – more than triple the volume in 2017.<sup>6</sup>

While cost and budget control are key factors behind this growth in PPA activity, sustainability goals continue to be an important driver. Through RE100, over 250 companies (including Macquarie) have now set themselves ambitious targets to decarbonise their activities and power their operations with renewable energy. This growth in demand is anticipated to catalyse an estimated 105 GW of new renewable generation capacity by 2030.<sup>6</sup> Through our project development, PPA structuring and onsite generation solutions, we are supporting our corporate clients to meet their goals.

<sup>6</sup>BloombergNEF



## Powering clients

Over the last 12 months, GIG secured PPAs for projects representing 1.3 GW of capacity, bringing the total capacity of projects supported by GIG PPAs to over 3 GW globally.

With 40 GW of capacity backed by corporate PPAs, the US remains the most advanced corporate PPA market in the world.<sup>7</sup> In September, GIG portfolio company Savion secured a PPA for 95 MW of solar projects with T-Mobile USA. In its first year in the US, GIG has supported over 1 GW of solar capacity through PPAs, and with a US development pipeline of 10 GW, we are set to remain at the forefront of this fast-growing market.

Hot on the heels of the US, the Nordic PPA market continues to go from strength to strength. In December 2019, GIG secured PPAs for Eramet Norway with its Norwegian onshore wind farms, Buheii and Tysvær. With an annual electricity demand of more than 2 TWh per annum, Eramet relies on predictable power conditions for efficient functioning of its smelters. The PPAs lock in power prices for Eramet until 2038 and are backed by guarantees issued by the Norwegian Export Credit Guarantee Agency (GIEK).

GIG is also driving PPA activity in newer markets, with little to no revenue support available from government. In October 2019, GIG secured its first corporate PPA in Poland with Signify, one of the world's leading lighting companies. The virtual PPA with Kisielice wind farm will not only reduce Signify's annual carbon footprint, but by demonstrating an innovative route to market, it is also

accelerating the growth of Poland's emergent renewables market. In November 2019, GIG acquired its second Polish onshore wind asset. The 48 MW Zajączkowo Wind Farm is also PPA backed.

Alongside the growth in popularity of PPAs, corporates are increasingly taking control of their energy needs through onsite generation. In October 2019, GIG entered into an agreement with UK based supermarket Tesco to install and operate solar PV systems at a number of the retailer's premises in the UK. The agreement follows a similar partnership with Anglian Water, where GIG is delivering one of the largest, onsite, behind the meter solar PV arrays in the UK.

With wind and solar now the cheapest form of new generation in most markets, coupled with the growing trend of corporate decarbonisation commitments, the global PPA market seems set to continue its rapid growth. GIG is committed to working with corporate clients to provide tailored solutions to meet that growing demand.



### FIND OUT MORE

[Powering clients through PPAs](#)

[Investment trends in the US](#)

[Read about the Buheii onshore wind farm](#)

<sup>7</sup>BloombergNEF Corporate PPA Database



# Green advisory services

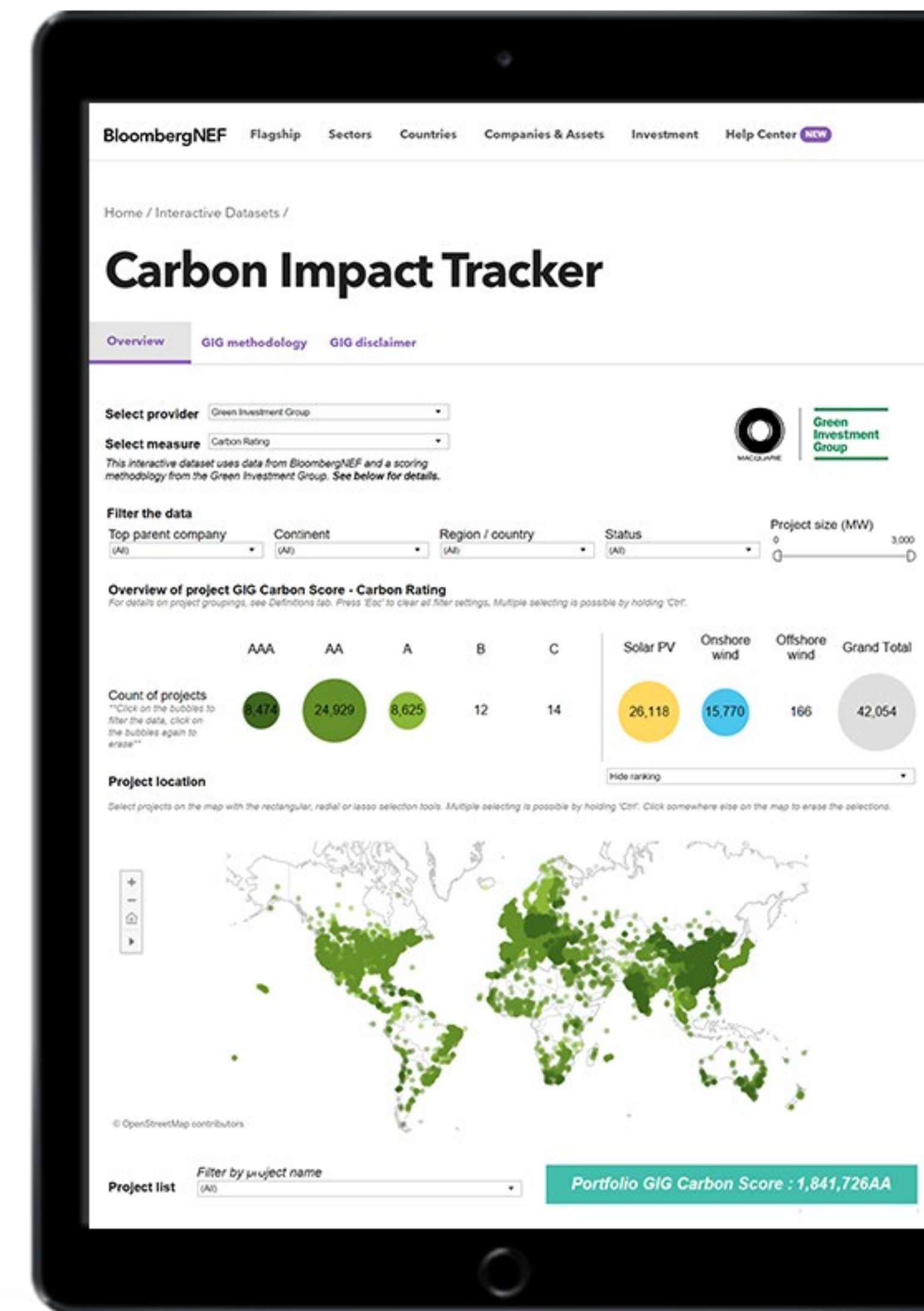
Across the world we are seeing increased capital allocated to environment, social and governance (ESG) investment strategies, a growing movement towards greater transparency in the impact of green investments, and a need to increase private capital flows into new markets. That's why we are developing and expanding the advisory services we offer clients, creating the right environment to enable private investment and measuring the green impact of investment activity.

The growth in sustainable investment shows no signs of abating. Around \$US 20.6bn<sup>8</sup> flowed into sustainability-themed funds in the US in 2019 and total global assets in sustainable funds are currently at a record high.<sup>9</sup> With regulatory requirements and scrutiny of ESG disclosures increasing, the need to measure the impact of investments has never been greater.

Yet, access to robust, transparent and comparable impact data continues to be a significant challenge. GIG is therefore supporting the growing demand for transparency and sustainability reporting through our market-leading green impact advisory services.

Alongside this, we've been supporting organisations and governments as they develop green finance policies and create new green finance institutions. Through this work GIG's climate finance advisory expertise is playing an instrumental role in supporting global efforts to build back better.

<sup>8</sup>Morningstar  
<sup>9</sup>Morningstar





# Green advisory services

## GREEN IMPACT ADVISORY

Since GIG's inception, our Green Impact Advisory team has used its proprietary methodology to rate and report the green impact of our investments. We now also offer this expertise to third parties, providing specialist advice on green finance investment instruments and green impact reporting. This enables clients to make more informed, sustainable choices and consistent, robust public disclosures.

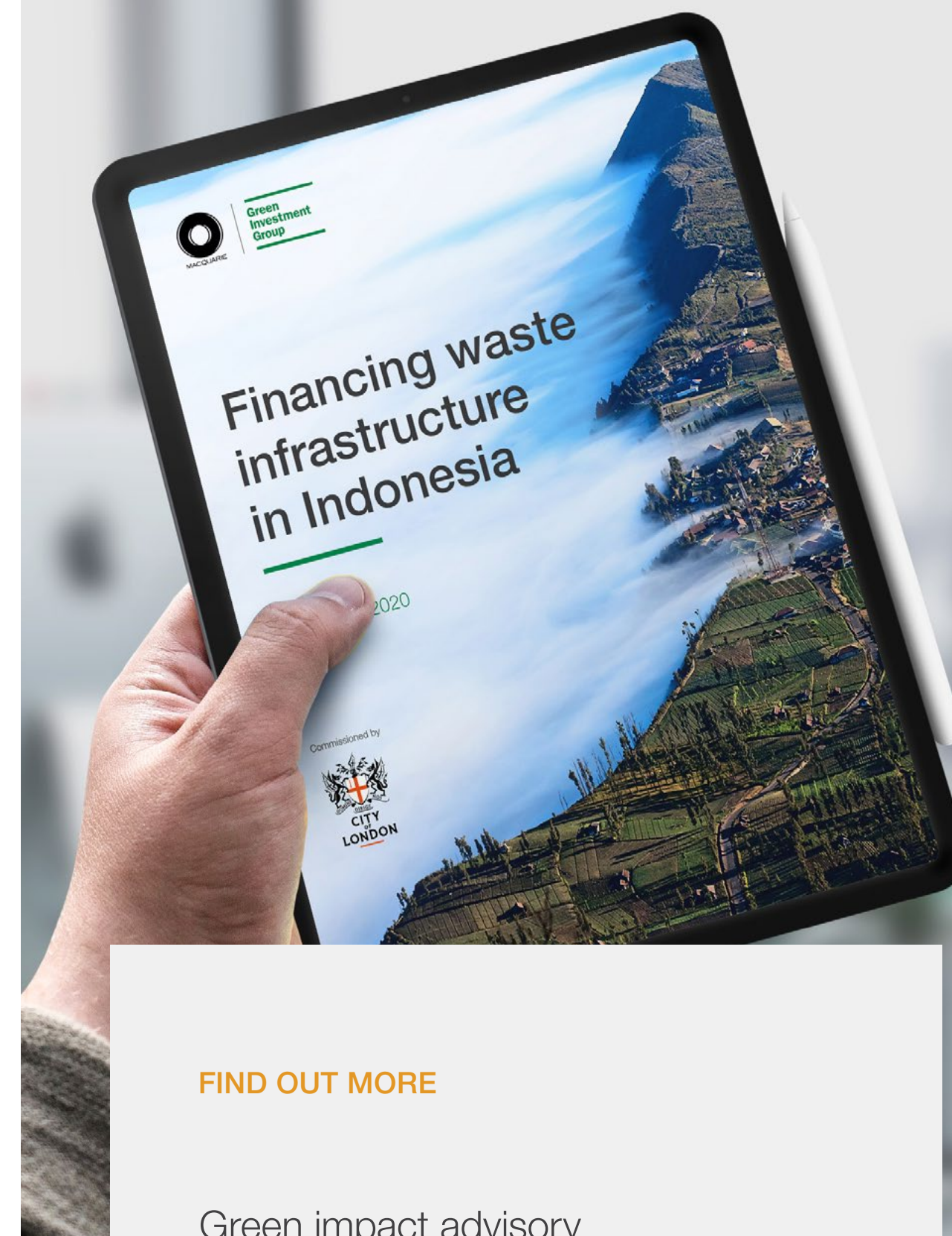
In October 2019, we partnered with BloombergNEF (BNEF) to create an award-winning<sup>10</sup> renewable energy project data initiative. By combining GIG's pioneering Carbon Score methodology with BNEF's renewable energy project data, we've created a tool which provides a simple and intuitive assessment of the carbon benefits of projects. Investors now have unprecedented access to robust green impact data for over 60,000 assets and can quickly and consistently review and compare projects across the globe.

In August 2020, we provided green impact advisory services to our partnership with RES enabling us to reach financial close on the Murra Warra II onshore wind farm in Victoria, Australia. Based on our specialist green impact expertise, together with RES, we've raised project finance from a syndicate of six banks in accordance with the Asia Pacific Loan Market Association's Green Loan Principles, delivering what is understood to be the first ever project finance green loan used to fund the construction of a wind farm in Australia.

## CLIMATE FINANCE ADVISORY

Over the past year we've worked in partnership with multilateral organisations such as the Organisation for Economic Cooperation and Development, Green Climate Fund and Asian Development Bank Institute, to deliver support to a number of countries including Vietnam, Philippines, China, Pakistan, Ghana and Chile. Our expertise has also been sought out by local governments in the UK (Hertfordshire County Council), Mexico (Mexico City) and the United States (New Jersey and Los Angeles City). We are also currently supporting US non-profit, Rocky Mountain Institute, in the development of a new Green Bank Design Platform, expected to launch in 2021.

Alongside this work, we are engaged with organisations in emerging markets, providing advice on stimulating capital flows into green infrastructure. In Spring 2020, GIG was commissioned by the City of London Corporation to advise on accelerating private finance into waste infrastructure in Indonesia. The report sets out 19 key actions that could be taken to drive investment into the sector and help eradicate plastic pollution in Indonesia by 2040. We are now working with City of London, the UK Government and the Government of Indonesia to put those recommendations into action and transform Indonesia's waste challenge.



### FIND OUT MORE

Green impact advisory

Climate finance advisory

Financing waste infrastructure  
in Indonesia

<sup>10</sup>Winner: ESG Data Initiative of the Year, 2020, Environmental Finance Sustainable Finance Awards



03.

# Funds under management

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GIG and Macquarie Infrastructure and Real Assets, the world's largest infrastructure manager<sup>11</sup>, work to mobilise and invest third-party institutional capital to support the global green energy transition. This includes acting as a general partner in a dedicated renewable energy fund and managing an investment vehicle with the UK Government.

<sup>11</sup>IPE Real Assets, July/August 2020



# Funds under management



## UK CLIMATE INVESTMENTS

UK Climate Investments (UKCI) is a joint venture between GIG and the UK Government. Forming part of the UK's International Climate Finance commitment, it targets transformational green energy investments where UKCI capital can mobilise additional private sector capital on a sustainable basis to promote cleaner, greener growth in developing economies.

### Affordable green housing in Kenya

In January, UKCI announced a new £30m prospective commitment to finance the construction of affordable green housing in Kenya. UKCI's commitment will be delivered through a locally managed strategy which aims to develop approximately 10,000 energy and water efficient homes in Nairobi – embedding environmentally sustainable building design standards and helping to address a serious shortage of affordable housing.

In just two years, UKCI has committed more than £70m across three projects in sub-saharan Africa – supporting 254 MW of new renewables projects and helping to develop the region's green finance market.

### Supporting green investment in India

UKCI has helped develop and operate 235 MW of solar projects across India, powering the equivalent of 390,000 homes with clean electricity. UKCI is also supporting India's local commercial and industrial sectors transition to renewable power.

UKCI plays an important leadership role within the industry to drive greater investment in India's local renewable energy sector. This year, UKCI joined a delegation of UK investors on a trade mission to India and formed a new partnership with the International Solar Alliance to promote investment in solar. It also co-chaired a UK-India Sustainable Finance Working Group set up jointly by both governments. The working group launched its first report in November 2019.

## MACQUARIE GIG RENEWABLE ENERGY FUND 1

Macquarie GIG Renewable Energy Fund 1 (MGREF1) manages investments in a portfolio of six operational UK offshore wind farms representing a combined installed capacity of approximately 1,450 MW.

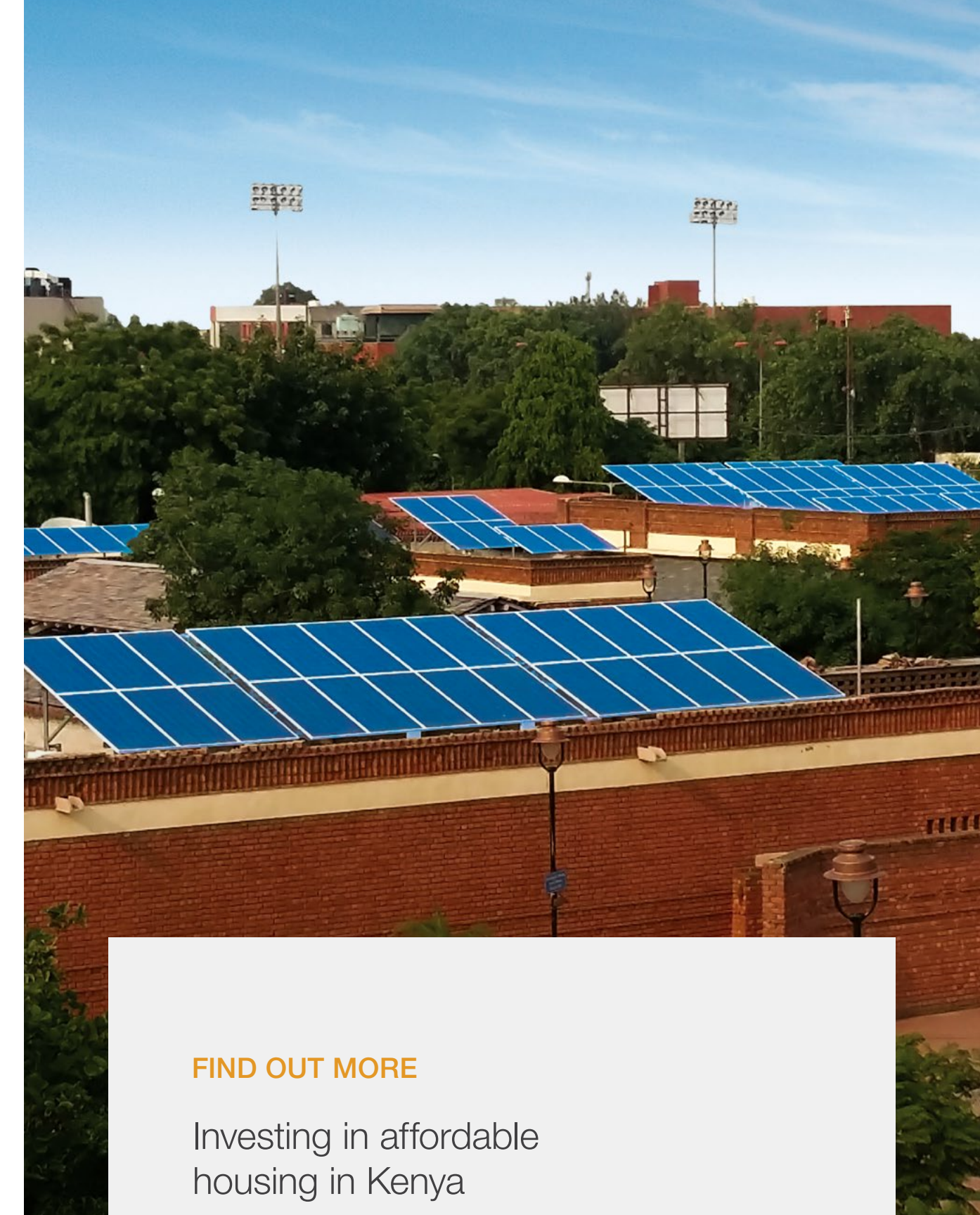
GIG's asset management team remains focused on driving higher production outcomes and cost efficiencies at each MGREF1 asset to maximise their contribution to the low-carbon transition. A focused maintenance programme across the portfolio saw average availability at approximately 96 per cent during the period. GIG is also working closely with the Crown Estate, its co-shareholders and operations teams to agree a new lease and other associated agreements which would allow the expansion of two existing wind farms in the portfolio. Under the arrangements, MGREF1 has an option to buy into the expansion at a future point in time, should either of these projects progress.

### FIND OUT MORE

Investing in affordable housing in Kenya

Short film on how businesses are switching to renewables in emerging markets

Three trends shaping Africa's low-carbon opportunity





04.

# Working in partnership

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We are most effective in pursuing our mission when we work in partnership with others. That's why we participate in a number of high-profile initiatives aimed at promoting the development of a greener global economy.

We are proud to add our voice and expertise to the activities of the global community as we take collective action to tackle the climate emergency.



# Working in partnership

GIG is committed to being an active citizen in the global green advocacy and policy community. We participate in over 40 membership organisations around the world, in which GIG team members hold a number of key positions, including as directors of WindEurope and vice-chair of the Korean Wind Energy Industry Association.

GIG team members also lead a number of important initiatives including the International Organization for Standardization (ISO) Sustainable Finance Framework Standard (ISO 32210), International GHG Accounting Harmonization, and the IPCC's Working Group II Sixth Assessment Report.

Macquarie chief executive Shemara Wikramanayake is a founding member of two global initiatives which produced major reports in 2019 – the Climate Finance Leadership Initiative (CFLI) and the Global Commission on Adaptation (GCA) – and GIG's experts have been supporting her in these roles.

In September 2019, the CFLI published its first report at UN Climate Week, aimed at accelerating an unprecedented mobilisation of private finance in response to the climate challenge. Following the report's publication, GIG supported a partnership agreement between the CFLI and the Association of European Development Finance Institutions (EDFI) to promote the development of green projects in emerging markets.

During the GCA's 'Year of Action', we've been working with a range of public sector stakeholders including national governments, the United Nations and the World Bank, providing advice on the financial structures that could be used to increase the volume of private finance flowing into climate adaptation activities.

We have also shared our expertise around the world by attending, speaking at or sponsoring over 120 physical and online events over the course of the year, including the 2019 International Renewable Energy Conference (IREC) in Seoul and the virtual Australian Clean Energy Summit 2020. In October 2019, we held the second Macquarie GIG Green Energy Conference in London, bringing together over 500 stakeholders from across the green energy community to discuss the energy transition, which was once again supported by our Scottish stakeholder event in November 2019.

We continue to proactively share updates on our activities through our website and social media channels. In June 2020 we launched our new website, meaning you can now discover even more about our projects and perspectives. Keep in touch with us throughout the course of the year at [greeninvestmentgroup.com](https://greeninvestmentgroup.com)





05.

# Sustainability at Macquarie

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Macquarie Group, GIG's parent company, is a global leader in sustainable finance and supporting the transition to a low carbon economy.

The following pages outline how sustainability is at the core of Macquarie's values across its four operating groups: Macquarie Capital, Macquarie Asset Management, Commodities and Global Markets, and Banking and Financial Services.



# Sustainability at Macquarie

Macquarie's approach to ESG issues is set out in the Macquarie Group Annual Report for 2020 which explains Macquarie's approach, governance and disclosures, detailing activity across eight key areas:

- Environmental and social risk management
- Environmental and social financing
- Climate change
- Sustainability in direct operations
- Client experience
- People and workplace
- Business conduct and ethics
- Community

Macquarie supports the work of the Taskforce on Climate-related Financial Disclosures (TCFD) and is actively implementing its recommendations. In July 2020 Macquarie published new TCFD-aligned disclosures providing details on our approach to understanding and managing climate-related risks, including our strategy, risk management and governance practices, heat mapping and scenario analysis.

For FY2020 (to 31 March 2020) Macquarie Group invested or arranged £4.8bn (\$A9.0bn) in renewable energy and energy efficiency projects. In addition to GIG's 25 GW+ of projects in development, the wider Group had 12.8 GW of renewable energy assets in operation or under management at 31 March 2020.<sup>12</sup>

## MACQUARIE'S ENVIRONMENTAL AND SOCIAL FINANCING SERVICES

### Finance and develop

- Investment in development projects, platforms & businesses
- Debt and equity investment
- Asset financing, including demand side management, energy efficient assets, distributed generation and battery storage, and electric vehicles

### Advise

- Financial advisory
- Debt and equity arrangement
- Green financial institution advisory
- Green impact assessment, reporting and ratings

### Manage

- Real asset management, including green infrastructure, equity and debt, asset finance and real estate
- Securities investment management and structured access to funds
- Equity-based products and alternative assets

### Research

- Specialist ESG and alternative energy research
- Corporate and investor ESG engagement programs

### Trade

- Emission allowances and renewable energy certificates
- Inventory financing for environmental markets
- Derivative financing for renewable energy products
- Environmental risk management solutions

### FIND OUT MORE

Macquarie's TCFD disclosures

Macquarie's ESG Report FY20

Macquarie Capital

Macquarie Asset Management

Commodities and Global Markets

Banking and Financial Services

<sup>12</sup>Reflects 100% generating capacity of each asset, not the proportion owned/managed by Macquarie.



# Macquarie Group green activity in FY20

This map shows sustainable finance activity from other Macquarie Group businesses, in addition to GIG's own activity. Find out more at [macquarie.com](https://www.macquarie.com)





06.

# Governance & green impact

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# Governance

Our green mission underpins everything we do. All activity undertaken under the GlG name and brand align to our Green Objective, by contributing to one or more of the five Green Purposes.

## OPERATIONAL STRUCTURE

GlG is Macquarie's global brand for its principal green investment activity. Green Investment Group Limited is owned by the UK Green Investment Bank Limited legal entity, which is indirectly owned by Macquarie Group Limited.

The Articles of Association of UK Green Investment Bank Limited contain the Green Objective, which lists our five Green Purposes. These Green Purposes can only be altered with the consent of the holder of the 'special share' in UK Green Investment Bank Limited. No proposal has been made to amend the Green Purposes.

In the UK and Europe, new investments made under the GlG name are made by Green Investment Group Limited or its affiliates. In the rest of the world, investments may be made by other Macquarie Group entities using the GlG name and brand for trading and marketing purposes. This is permitted only on the basis that any activities under the GlG landmark be compliant with the Green Objective and any investment comply with GlG's Green Investment Principles and Green Investment Policy.

## THE GREEN PURPOSES COMPANY

The Green Purposes Company (GPC) holds the 'special share' in UK Green Investment Bank Limited. The GPC is a company limited by guarantee, owned and operated by trustees who are independent of GlG and Macquarie Group. The primary role of the trustees is to approve or reject any changes proposed to GlG's Green Purposes as they apply in the UK and Europe.

The trustees were appointed on 31 October 2016 for an initial term of five years. In performing its role, the GPC is committed to public accountability, transparency and competency, and to contributing positively to the future development of GlG.

## ENGAGING WITH THE GPC

We are pleased to have a strong and constructive working relationship with the GPC trustees, and that has continued to build over the past year. We hold four formal meetings with the GPC each year, where we provide information on our projects and their green impact, as well as our wider business strategy. We also notify the GPC of new transactions as they are announced or publicised.

Since 2017 we have invited the GPC to speak at our annual Green Energy Conference, including our virtual event in 2020. The trustees also have continued to provide a letter in our Progress Reports and Annual Reports, with this year's shown on page 31.

## WHO ARE THE GPC TRUSTEES?

### James Curran

Former CEO of the Scottish Environment Protection Agency

### Trevor Hutchings (Chair, GPC)

Previously a senior civil servant at the then Department of Energy and Climate Change, and currently Director of Strategy and Communications at Genserv

### Tushita Ranchan

An experienced green infrastructure investor and former CEO of a renewable energy company

### Robin Teverson

Chair of the House of Lords EU Energy and Environment Sub-Committee

### Peter Young

Environmentalist and former Chair of the Aldersgate Group



# Letter from the Green Purposes Company

## INTRODUCTION

This is our third annual letter in which we comment on GIG's performance against its five green purposes. The letter addresses GIG activities in the UK and Europe and is for the financial year 2019/20. We enjoy a constructive relationship with GIG and have been encouraged by actions taken and commitments given in response to concerns raised in our 2019 letter. This year we draw attention to areas where we believe GIG can further strengthen its performance. We confirm that no request to change the green purposes has been received since our last letter.

## INVESTMENT STRATEGY

GIG is now a leading investor globally in projects that are driving carbon emission reductions. This is strong and important progress. However, GIG has five green purposes, of which we are the guardians. Together those five purposes cover a wide environmental spectrum beyond climate change mitigation. GIG, through its expertise and the resources of Macquarie, has a unique opportunity to drive forward the development of green finance products in areas such as nature-based solutions, the reversal of bio-diversity decline, and the wider provision of eco-system services. We accept that these are still frontier areas but in five or ten years they will become mainstream. GIG has the potential to bring these timescales forward and in doing so lead the

market. We believe this is entirely consistent with GIG's mission to 'accelerate the green transition', and with global efforts to tackle the climate and environmental crises.

## GREEN IMPACT REPORTING

GIG operates a Green Governance Framework to ensure compliance with, and to measure impact against, the green purposes. This governance framework remains one of the most comprehensive available in the market and we are pleased that GIG applies it to all global activity undertaken using the GIG brand, something that goes beyond the special share arrangement which applies to the UK and Europe only. Furthermore, it is encouraging that GIG has improved the transparency of its green impact reporting, for example the clear presentation of all five green purposes on page 34 of this report, and that it commissioned an independent review of its approach.

Nevertheless, best practice in green impact reporting continues to evolve across all markets. As such, it is important that GIG continues to develop and strengthen its methodology to ensure it is robust, deserves the confidence of the market and demonstrates leadership. To this end, we encourage GIG to take steps in four areas:

1. GIG has a robust methodology with quantified metrics for green purpose no.1, the reduction of greenhouse gas emissions, and we welcome the use of updated

IFI (International Financial Institution) data since our last letter. However, in order to provide greater confidence in emissions savings estimates, we would continue to encourage sensitivity analysis using more up-to-date national data sets where these exist.

2. We are concerned that for green purposes 3, 4 and 5, GIG's assessments are largely qualitative and we would encourage the development of robust methodologies and metrics for these, drawing on best practice and standards that are already in use elsewhere. In doing so it will be important to ensure transparency of the methodology and data sets used such that the impact of an investment on any of the green purposes is readily verifiable, something that is not currently possible.
3. We encourage further consideration of the inter-play between the green purposes. This includes the risk of double counting impacts, and the process and criteria for determining whether an investment which contributes to one or more green purpose should go ahead, despite it having a detrimental impact on one or more of the other green purposes. In such circumstances we would like GIG to seek to improve overall project outcomes through proactive interventions that require project developers to go beyond regulatory-driven compliance to deliver clear net benefits.



# Letter from the Green Purposes Company

4. We are pleased to note the success of GIG's advisory services. As these mature we believe they should be brought fully within the scope of the green impact reporting arrangements such that their contribution to the green purposes can be readily understood.

## EXTERNAL GREEN ASSURANCE

As noted above, we commend GIG for undertaking an independent review of their Green Investment Ratings methodology and for sharing this with the GPC. Many of the observations made in this review chime with our own, and we encourage GIG to take forward the key recommendations. To this end we would be pleased to work with GIG to further clarify the meaning of those green purposes that are currently open to wide interpretation.

## INNOVATION

While investments over the year were restricted to a limited range of established technologies, there is welcome evidence that GIG is broadening its approach, bringing in expertise in new technologies together with innovation in project design and financing structures. Again, we would encourage innovation in some of the more challenging areas of green investment such as in nature-based solutions as noted earlier in this letter.

## THOUGHT LEADERSHIP AND INFLUENCE

We are pleased to note GIG's continued thought leadership and influence through engagement with governments, private sector and other organisations. Examples include supporting the development of green finance in developing countries, and the launch of the GIG Carbon Score tool in partnership with BloombergNEF. The Macquarie GIG Green Energy Conference has become a key event on the green finance calendar and GIG's advisory services have influenced thinking in those organisations with which it has engaged. Significantly, this includes the wider Macquarie Group which is now more actively engaged in the green agenda and this also helps strengthen the integrity of the GIG brand.

## INVESTMENT RECORD

There was a significant uplift in investments over the reporting period, with 12 investments totalling £2,302m of which £2,034m was in UK and £268m in the rest of Europe. The increased level of investment is welcomed, and it is noted that GIG will exceed its first three years commitment for £3bn of new investment, either directly or by arranging capital from other investors, in the UK or Europe.

## DIVESTMENTS

We welcome the further clarification that was provided subsequent to our 2019 letter on the accounting treatment of divestments and the commitment to re-examine the green impact for all investments, including ones from which GIG has

divested, should GIG become aware that the estimated green impact is likely to have materially changed. There nonetheless remains a risk of double-counting of the green impact of an investment should a new investor(s) claim the same project benefits after GIG has divested, and GIG may wish to draw attention to this point when reporting.

## FORWARD LOOK

The COVID-19 pandemic was just taking hold at the end of the reporting period covered by this letter and we commend the efforts of GIG to minimise the impact of this on its activities and on green finance more generally. We look forward to working with GIG over the year ahead, including providing our input and support in the areas of attention we have highlighted in this letter. In acting on these points we believe GIG should be able to strengthen its market-leading position in the provision of green finance.



**Trevor Hutchings**

Chair, for and on behalf of the Trustees  
of the Green Purposes Company

11 September 2020



# Green impact overview

Since our inception, we have reported the green impact of our investments, each year, in our green impact statements. This year we are increasing the transparency of our reporting by providing additional disclosures on the qualitative assessments we undertake on each of our investments, against all five of our Green Purposes.

## GREEN IMPACT METRICS – THE QUANTITATIVE APPROACH

We maintain the same robust and consistent approach to accounting and disclosure of green impact metrics as applied in previous years, reporting performance in our green impact statements. In 2019 the underlying IFI dataset<sup>13</sup> used by GIG for project greenhouse gas accounting was updated to reflect more up-to-date data, which has affected forecast emissions avoided. Further details are provided on page 35.

In 2020 we commissioned an independent benchmarking review to identify potential new metrics that we could use to track green impact. We look forward to further developing emerging approaches in the fields of environmental and biodiversity measurement that can be applied in future years.

## GREEN RATINGS – THE QUALITATIVE APPROACH

GIG has always used qualitative data as well as metrics to evaluate the green impact of investments, as we know that certain environmental effects of projects – such as on habitats and species – are not readily quantified.

Every investment decision by GIG is informed by our green ratings against all five of our Green Purposes, with the project's contribution evaluated on a scale of AAA to E, as indicated on the following page. This year we have disclosed our total ratings given to investments in the year.<sup>14</sup> The graphic on the following page indicates the number of projects assigned to each rating. We hope this approach improves the transparency of the performance of our investments against the Green Purposes.

Our green impact reporting is for the period 1 April 2019 to 31 March 2020.

## Our Green Purposes

We assess, monitor and report on our green impact with market-leading transparency. All our activities positively contribute to at least one of our five Green Purposes.



01 Reduce greenhouse gas emissions



02 Advance natural resource efficiency



03 Protect or enhance the natural environment



04 Protect or enhance biodiversity



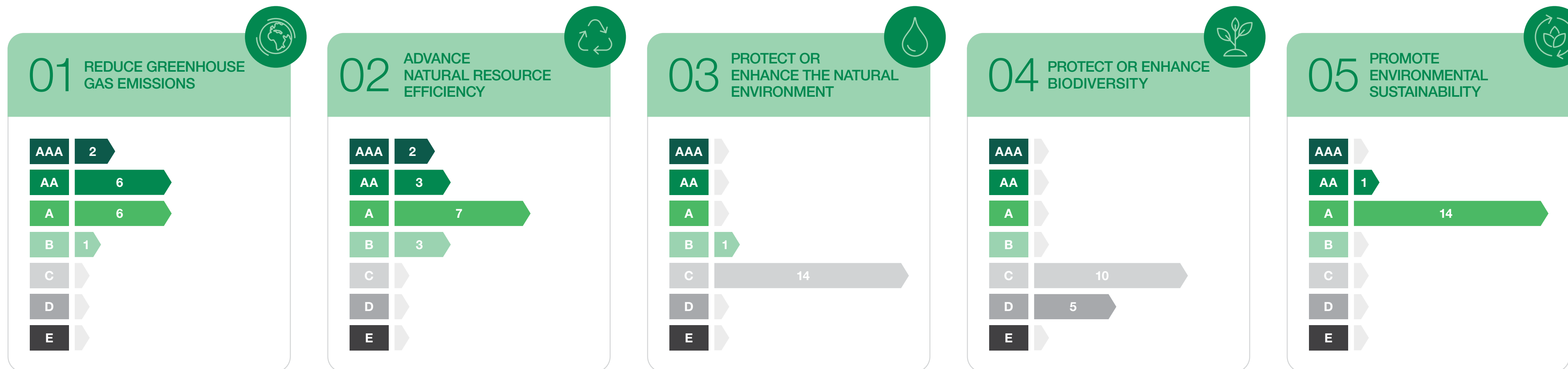
05 Promote environmental sustainability

<sup>13</sup>IFIS Harmonization of Standards for GHG Accounting

<sup>14</sup>Investments made at Final Investment Decision or later, in accordance with our Green Impact Reporting Criteria



# Green impact overview



- All of the projects in which we invested in 2019/20 are forecast to result in reduced greenhouse gas emissions.
- Projects achieving higher green ratings for this Green Purpose are located in countries with higher grid emissions (e.g. Poland) 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 (kt CO<sub>2</sub>e).

- All of the 2019/20 projects are forecast to advance resource use efficiency.
- Projects achieving higher ratings have greater displacement of natural resource consumption.
- Metrics reported for this Green Purpose are:
  - renewable energy generation (GWh);
  - energy consumption avoided (GWh);
  - and, materials recovered for recycling (kt).

- Most of the 2019/20 projects are anticipated to have no significant or minor adverse effects on the local natural environment, following environmental mitigation measures.
- One project is expected to contribute positively to protection of the natural environment by diverting waste from landfill.
- The metric reported for this Green Purpose is landfill avoided (kt).

- None of the 2019/20 projects are expected to contribute directly to biodiversity protection or enhancement.
- With biodiversity net gain principles being adopted in countries such as the UK, we expect to see greater contributions to this Green Purpose in future.
- Adverse effects on biodiversity have been mitigated to the fullest extent possible, with residual effects deemed acceptable by planning and permitting authorities for each project.
- The majority of 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 – e.g. disturbance of marine mammals during offshore wind construction or cable laying – we conservatively assume more severe impacts.

- Whilst 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, with one project – the Formosa 1 offshore wind project – showing a particularly strong contribution due to its demonstration effect, being the first offshore wind project in Taiwan.



# Green impact statements

The green impact statements below and overleaf indicate the principal quantifiable environmental benefits arising from our investments.

Last year we updated our method of reporting the green impact of our investments to reflect the lifetime green impact of all investments to date, whilst still highlighting the expected green impact of investments made in the current year. This year we have maintained this approach to illustrate the increasing green impact that we are catalysing through our investment activity.

The green impact of all of our projects – whether qualitative or quantitative – is measured by comparing the performance of the project to a defined baseline or ‘counterfactual’: what would happen in the absence of the project. More information on GIG’s methodology can be found in GIG’s Green Impact Reporting Criteria 2019/20, a copy of which is published on [GIG’s website](#).

The baseline used for evaluating greenhouse gas emissions avoided by grid-connected energy generation and energy efficiency projects is defined by the IFI harmonized approaches to greenhouse gas accounting.<sup>15</sup> The IFI dataset of marginal grid emission factors is periodically updated to reflect the latest information on electricity grids and associated forecasts of future grid greenhouse gas emissions. The IFI baseline was updated on 1 July 2019 and so all projects that commence operations after this date adopt the latest version (v2.0) dataset. To provide an accurate reflection of GIG’s expected impact, the greenhouse gas reduction from GIG’s investments in previous years has been re-estimated where applicable, resulting in some decreases to lifetime green impact. Please see notes to the green impact statements on page 40 for further details.

Selected totals for data in the green impact statements in respect of the financial year 2019/20 have been independently assured by Deloitte in accordance with the Independent Assurance Report set out on pages 42 and 43. The reporting period for the green impact statements is April 2019 to March 2020.

## LIFETIME GREEN IMPACT METRICS

	Additional lifetime green impact from investments made in 2019/20	Lifetime green impact from all investments made to date
Greenhouse gas emissions avoided (kt CO <sub>2</sub> e)	37,112	198,241
Renewable energy generated (GWh)	93,889	568,243
Energy demand reduced (GWh)	0	3,959
Materials recycled (kt)	2,059	36,007
Waste to landfill avoided (kt)	10,178	115,843

<sup>15</sup>IFIS Harmonization of Standards for GHG Accounting



# Green impact statements

## REDUCTION OF GREENHOUSE GAS EMISSIONS

Estimated lifetime greenhouse gas emissions reduction of new GIG investments in the reporting period	year ended 31.03.20 kilotonnes CO <sub>2</sub> e	year ended 31.03.19 kilotonnes CO <sub>2</sub> e
Offshore wind	32,925	0
Waste	2,172	3,501
Energy efficiency	0	0
Bioenergy	0	0
Onshore wind	593	9,341
Solar	1,422	0
<b>Total</b>	<b>37,112</b>	<b>12,842</b>

Estimated lifetime greenhouse gas emissions reduction of all GIG investments to date	year ended 31.03.20 kilotonnes CO <sub>2</sub> e	year ended 31.03.19 kilotonnes CO <sub>2</sub> e
Offshore wind	78,989	51,822
Waste	35,879	39,293
Energy efficiency	2,277	2,277
Bioenergy	67,302	72,816
Onshore wind	12,372	13,143
Solar	1,422	0
<b>Total</b>	<b>198,241</b>	<b>179,351</b>



# Green impact statements

## GENERATION OF RENEWABLE ENERGY

Estimated lifetime renewable energy generated by new GIG investments in the reporting period	year ended 31.03.20 GWh	year ended 31.03.19 GWh
Offshore wind	75,332	0
Waste	4,797	9,499
Energy efficiency	0	0
Bioenergy	0	0
Onshore wind	9,696	33,875
Solar	4,064	0
<b>Total</b>	<b>93,889</b>	<b>43,374</b>

Estimated lifetime renewable energy generated by all GIG investments to date	year ended 31.03.20 GWh	year ended 31.03.19 GWh
Offshore wind	182,462	120,429
Waste	66,522	62,931
Energy efficiency	1,265	1,265
Bioenergy	222,359	222,359
Onshore wind	91,571	81,874
Solar	4,064	0
<b>Total</b>	<b>568,243</b>	<b>488,858</b>



# Green impact statements

## ENERGY DEMAND REDUCTION

Estimated lifetime energy demand reduced by new GIG investments in the reporting period	year ended 31.03.20 MWh	year ended 31.03.19 MWh
Electricity	0	0
Heating fuels	0	0
<b>Total</b>	<b>0</b>	<b>0</b>

Estimated lifetime energy demand reduced by all GIG investments to date	year ended 31.03.20 MWh	year ended 31.03.19 MWh
Electricity	1,800,459	1,800,459
Heating fuels	2,158,799	2,158,799
<b>Total</b>	<b>3,959,258</b>	<b>3,959,258</b>

## AVOIDANCE OF WASTE TO LANDFILL

Estimated lifetime waste to landfill avoided by new GIG investments in the reporting period	year ended 31.03.20 tonnes	year ended 31.03.19 tonnes
Biodegradable waste	7,079,100	6,669,380
Non-biodegradable waste	3,099,060	2,274,540
<b>Total</b>	<b>10,178,160</b>	<b>8,943,920</b>

Estimated lifetime waste to landfill avoided by all GIG investments to date	year ended 31.03.20 tonnes	year ended 31.03.19 tonnes
Biodegradable waste	76,225,075	67,736,675
Non-biodegradable waste	39,618,135	36,447,722
<b>Total</b>	<b>115,843,210</b>	<b>104,184,397</b>



# Green impact statements

## RECYCLING OF MATERIALS

Estimated lifetime materials consumption avoided through materials recovered for recycling by new GIG investments in the reporting period	year ended 31.03.20 tonnes	year ended 31.03.19 tonnes
Compost	0	0
Digestate (PAS 110)	0	0
Compost-like output	0	0
Plastics - mixed	0	0
Ferrous metals	94,500	132,750
Non-ferrous metals	199,500	80,845
Paper/card	0	0
Glass	0	0
Mineral aggregates	1,764,840	2,014,065
Waste electrical and electronic equipment (WEEE)	0	0
Other	0	0
<b>Total</b>	<b>2,058,840</b>	<b>2,227,660</b>

Estimated lifetime materials consumption avoided through materials recovered for recycling by all GIG investments to date	year ended 31.03.20 tonnes	year ended 31.03.19 tonnes
Compost	987,642	987,642
Digestate (PAS 110)	7,466,156	7,053,177
Compost-like output	1,128,809	1,128,809
Plastics - mixed	704,050	704,050
Ferrous metals	1,294,132	1,199,812
Non-ferrous metals	577,246	377,619
Paper/card	654,299	654,299
Glass	9,424	9,424
Mineral aggregates	17,004,968	15,224,675
Waste electrical and electronic equipment (WEEE)	34,328	34,328
Other	6,146,348	6,146,348
<b>Total</b>	<b>36,007,402</b>	<b>33,520,183</b>



# Notes to 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 2019/20 compares to that at the end of 2018/19, and provides a breakdown of the changes. In summary, these changes in lifetime green impact were caused by:

1. New investments made in the period – for the first time, GIG invested in and developed solar projects beyond Final Investment Decision, 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 portfolios of solar projects in the UK, Spain, the US and Malaysia. Other new investments include offshore wind projects (East Anglia ONE, UK; Formosa 1 & 2, Taiwan), onshore wind projects (Hornamossen, Sweden; Buheii, Norway; Kisielice & Zajączkowo, Poland) and an energy from waste project in the UK (Newhurst).
2. Removal of estimated remaining lifetime of exited assets that were acquired as operational – in line with GIG's Green Impact Reporting Criteria, when GIG acquired assets that were already operational, the remaining lifetime green impact of these is not included upon divestment. Remaining green impact from such assets divested prior to, during, and since the reporting period is not included in the 2019/20 figures.

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. This was done on the Dublin energy from waste project, in a similar process to last year, with the new operating data used to update the forecast green impact. On exit from the Greensphere portfolio a re-estimate was made, again taking into consideration the performance of the projects, to achieve an accurate estimate of forecast green impact.
- Adjustment of forecast green impact due to an update to the IFI greenhouse gas baseline – as described on page 35, 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 July 2019 and so all projects that commence operations after this date adopt the latest version (v2.0) dataset. To provide an accurate reflection of GIG's expected impact, the greenhouse gas reduction from GIG's investments as of 2018/19 has been reestimated.

## EQUATOR PRINCIPLES

In the reporting period, GIG did not make any investments to which the Equator Principles apply. The Equator Principles are not applicable to equity investments. There is no change to applicability under Equator Principles 4.



# Notes to the statements

Estimated lifetime green impact of all GIG investments to date Year on year changes	Greenhouse gas emissions reduction kilotonnes CO <sub>2</sub> e	Renewable energy generated GWh	Energy demand reduced MWh	Materials recycled tonnes	Waste to landfill avoided tonnes
<b>Year ended 31.03.19</b>	<b>180,973</b>	<b>492,667</b>	<b>3,959,258</b>	<b>34,782,008</b>	<b>104,413,284</b>
<b>Revised 31.03.19 following non-material corrections</b>	<b>179,351</b>	<b>488,858</b>	<b>3,959,258</b>	<b>33,520,183</b>	<b>104,184,397</b>
New investments made in the period (Note 1)	37,112	93,889	0	2,058,840	10,178,160
Projects cancelled in the period	0	0	0	0	0
Removal of estimated remaining lifetime of exited assets that were acquired as operational (Note 2)	(9,921)	(22,912)	0	0	0
Variation of forecast remaining lifetime and actuals from last year's forecast (Note 3)	(8,301)	8,408	0	428,379	1,480,653
<b>Year ended 31.03.20</b>	<b>198,241</b>	<b>568,243</b>	<b>3,959,258</b>	<b>36,007,402</b>	<b>115,843,210</b>



# Independent assurance report

## Independent Assurance Report to the UK Green Investment Bank Limited on Green Impact Data and the application of Equator Principles within the Progress Report

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”) and the application of Equator Principles within the GIG Progress Report for the year ended 31 March 2020.

### OUR UNQUALIFIED 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 and Equator Principles Reporting Criteria (the “Reporting Criteria”), materially misstate the Green Impact for the year ended 31 March 2020. 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.

## RESPONSIBILITIES OF THE DIRECTORS

The Directors are responsible for preparing the GIG Progress Report, including the following Assured Disclosures:

### Green Impact Data

Estimated lifetime performance for new GIG investments in the reporting period and all GIG investments to date as at financial year end – see pages 35-41

Greenhouse gas (GHG) emissions reduction (kilotonnes CO<sub>2</sub>e)

Renewable energy generated (GWh)

Energy demand reduced (MWh)

Materials consumption avoided through materials recycling (tonnes)

Waste to landfill avoided (tonnes)

### Equator Principles (see page 40)

Total number of Project Finance transactions and Project-Related Corporate Loans that reached financial close within the reporting period, to which the Equator Principles apply (absolute).

## RESPONSIBILITIES OF THE ASSURANCE PROVIDER

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

Our engagement provides limited assurance as defined in ISAE 3000 (Revised). The evidence gathering procedures for a limited assurance engagement are more limited than for a reasonable assurance engagement, and therefore 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



# Independent assurance report

Assured Disclosures and application of Equator Principles;

- 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 Green Impact Data and Equator Principles applicable deals, 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.

Our report is made solely to GIB, in accordance with ISAE3000 (Revised). Our work has been undertaken so that we might state to GIB those matters we are required to state 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 GIB for our work, this report, or for the conclusions we have formed.

## INHERENT LIMITATIONS

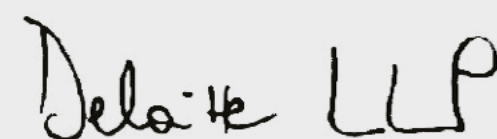
Since the Estimated Lifetime Green Impact Data are based on assumptions about the future which cannot be predicted with certainty, as with any predictions about the future, the actual future Green Impact Data may be more or less than the stated Estimated Lifetime Data.

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

With respect to disposals, GIB 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

We performed the engagement in accordance with Deloitte's independence policies, which cover all of the requirements of the International Federation of Accountants' Code of Ethics and in some areas are more restrictive. The firm applies the International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



**Deloitte LLP**

2 October 2020





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