



London
Stock Exchange

The green economy

How issuers are leading the
drive to a low-carbon economy

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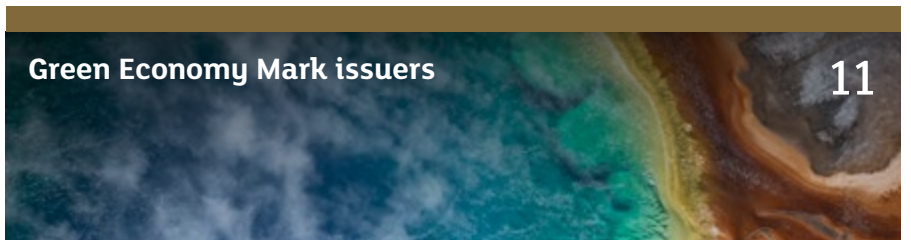
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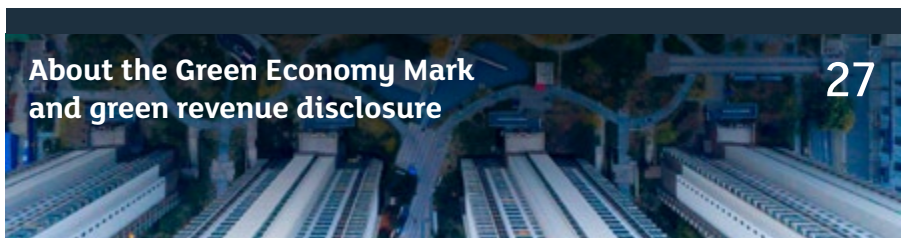
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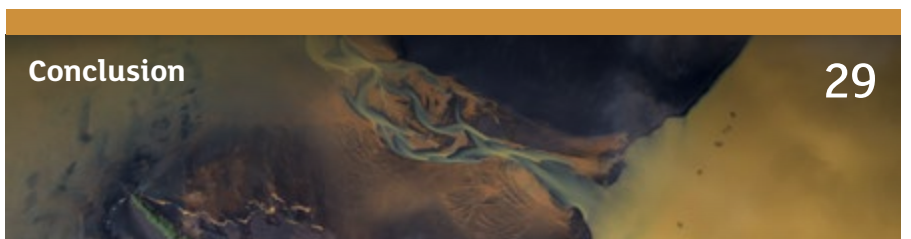
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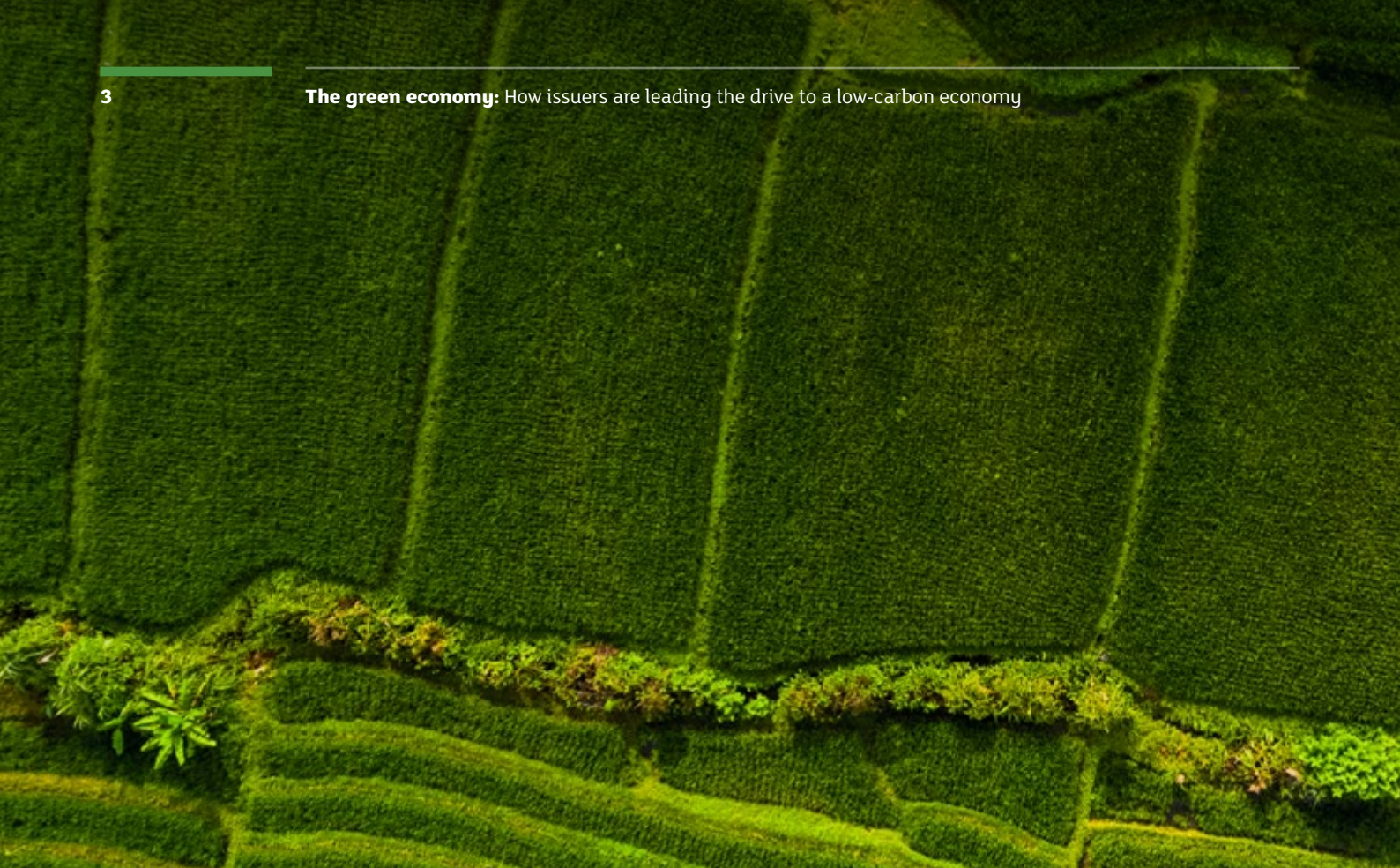
Achieving a low or net-zero carbon economy is essential to mitigating and adapting to climate change and an increasing number of governments have implemented legal obligations for their countries to become carbon neutral.

As of July 2020, the UK, France, Germany, Denmark, Hungary and New Zealand have all passed laws committing them to achieving a net-zero economy by 2050 or earlier. The COVID-19 pandemic has underlined the importance of making this transition; in response, countries around the world are bringing forward green recovery packages. Following this lead, a growing number of companies have announced similar goals.

Delivering on a low or net-zero economy and other environmental goals, such as reducing reliance on single-use plastics, will require innovation in products and services as well as the expanded use of existing technology.

Investors around the world recognise this and want to understand issuers' exposure to green products and services as part of a broader demand for clear disclosure and active management of ESG and, in particular, climate change-related opportunities and risks.





The number of ESG-mandated assets is growing, with demand spreading across geographies and investor types. The number of signatories to the UN Principles for Responsible Investment (PRI) now stands at 3,000¹; accounting for a combined \$103tn² in assets under management. Jurisdictions such as the EU, China and Canada are developing and putting green taxonomies into place against which investors and, in some cases, issuers will have to report. International initiatives such as the Taskforce for Climate-related Financial Disclosures (TCFD), whilst currently voluntary, is being adopted by many large public and privately held companies. TCFD-aligned reporting includes a focus on commercial opportunity as well as risk, creating a further incentive for issuers to highlight their solutions in this area.

London Stock Exchange plays a key role in this ecosystem, serving and connecting both investors and issuers.

Financial markets play a pivotal role in the transition to a greener, more sustainable economy, by enabling the mobilisation and reallocation of capital towards the opportunities presented by this necessary transformation. As one of the world's largest capital markets and sitting at the heart of the global financial system, London has been recognised as the leading global financial centre for the quality of its green finance offering³

For investors, greater disclosure presents green growth opportunities as well as helping to mitigate risk. However, there is still limited consistent information available on how issuers are deriving revenue and growth from providing environmental solutions.

Improving the visibility and the access to capital for green and sustainable commercial activities worldwide is a key goal of London Stock Exchange. London supports companies across all sectors to access the capital needed to address environmental risks and opportunities – from new green-growth ventures to long-established companies that are making their transition.

To increase the visibility of issuers on its markets that are delivering environmental products and services, as well as helping raise awareness of the breadth and value of the green economy, London Stock Exchange launched the Green Economy Mark in October 2019. It is a world-first, data-driven green classification and Mark for equity issuers. Using FTSE Russell's Green Revenues Data Model as the underlying framework, it identifies companies across all segments of the Main Market and AIM with at least 50% of their total revenues derived from green products and services. It was initially awarded to 74 issuers with a combined market cap of £55bn; following the 2020 review⁴ it is now held by 86 issuers with a combined market capitalisation of over £67bn.

For investors, the Mark provides a solution to the challenge of identifying an investible universe of green economy equities that can give them broad, cross-sector and international exposure, rather than a narrower focus on, for example, renewable energy infrastructure or pure-play clean technology

1. <https://www.unpri.org/pri/about-the-pri>

2. <https://www.unpri.org/sdgs/investing-with-sdg-outcomes-a-five-part-framework/5895.article>

3. <https://www.longfinance.net/publications/long-finance-reports/global-green-finance-index-5>

4. Based on FTSE Green Revenues Data; FTSE Russell Environmental Opportunities AIM index constituents; and LSE plc approvals of issuers as at 29 June 2020.

LONDON'S EQUITY MARKETS: SUPPORTING THE GREEN ECONOMY

86 equity issuers now hold the Green Economy Mark **16%** increase since its launch in October 2019

63 They comprise **63 corporates** active in a range of sectors

23 closed-end investment funds with a variety of strategies from renewable energy, energy storage and energy efficiency to private equity and asset finance

46 Main Market issuers **40** AIM issuers

£67bn+ combined market capitalisation of equity issuers with the Mark

Since launch of the Mark, **three issuers** – smart metering company Calisen, energy efficiency services company eEnergy, and investment fund Octopus Renewables – **were awarded the Mark at listing**.

8 companies and funds have been added in the 2020 review

One – the alternative asset manager Gresham House – already had three listed funds that qualified for the Mark; the firm now qualifies at a corporate level as a result of its continued investment into sustainable assets, making it the second such case alongside Impax Asset Management.

Green Economy Mark issuers account for:
2% of total market capitalisation
4% of total number of equity issuers
8% of total capital raised in the past 24 months

5th largest sector on London's equity markets for issuance*

36% Collectively, issuers with the Green Economy Mark have outperformed the FTSE All-Share Index over the past two years by **36%**† While the markets experienced significant volatility during the COVID-19 pandemic, Green Economy Mark equities have, in aggregate, demonstrated greater resilience and subsequently recovered faster than the rest of the market.

companies. It helps raise the profile of companies contributing to the green economy that may otherwise be missed by green or climate-aware investors.

For issuers, the Mark provides greater visibility to those investors and tangible evidence of their contribution to a sustainability strategy. "Being able to say that we were expecting to receive the Green Economy Mark on admission proved to be very beneficial in our conversations with investors," says Bert Pijls, CEO of smart metering company Calisen.

London Stock Exchange is at the forefront of helping issuers to understand best practice in ESG disclosures that meet investor needs and reflect the direction of travel from policymakers. Its ESG Disclosure Score measures the percentage of key sector-relevant ESG metrics disclosed and is provided to approximately 500 Main Market issuers via London Stock Exchange's Issuer Services platform, with a free, online self-assessment tool that can be used by issuers for whom data is not yet captured. This helps companies understand and choose how they may improve their ESG disclosure to ensure that it is relevant and decision-useful for their investors.

London Stock Exchange's focus on the green economy is prevalent across asset classes. Its Sustainable Bond Market offers not only segments for certified green, sustainability and social 'use of proceeds' bonds but also an issuer-level segment that enables those companies generating 90%+ green revenues to list standard corporate bonds, in addition to sustainability-linked instruments. This enables issuers to tap into fixed income investors that wish to support green economy issuers through the bonds that they invest in.

* Share price return: July 2018 to May 2020

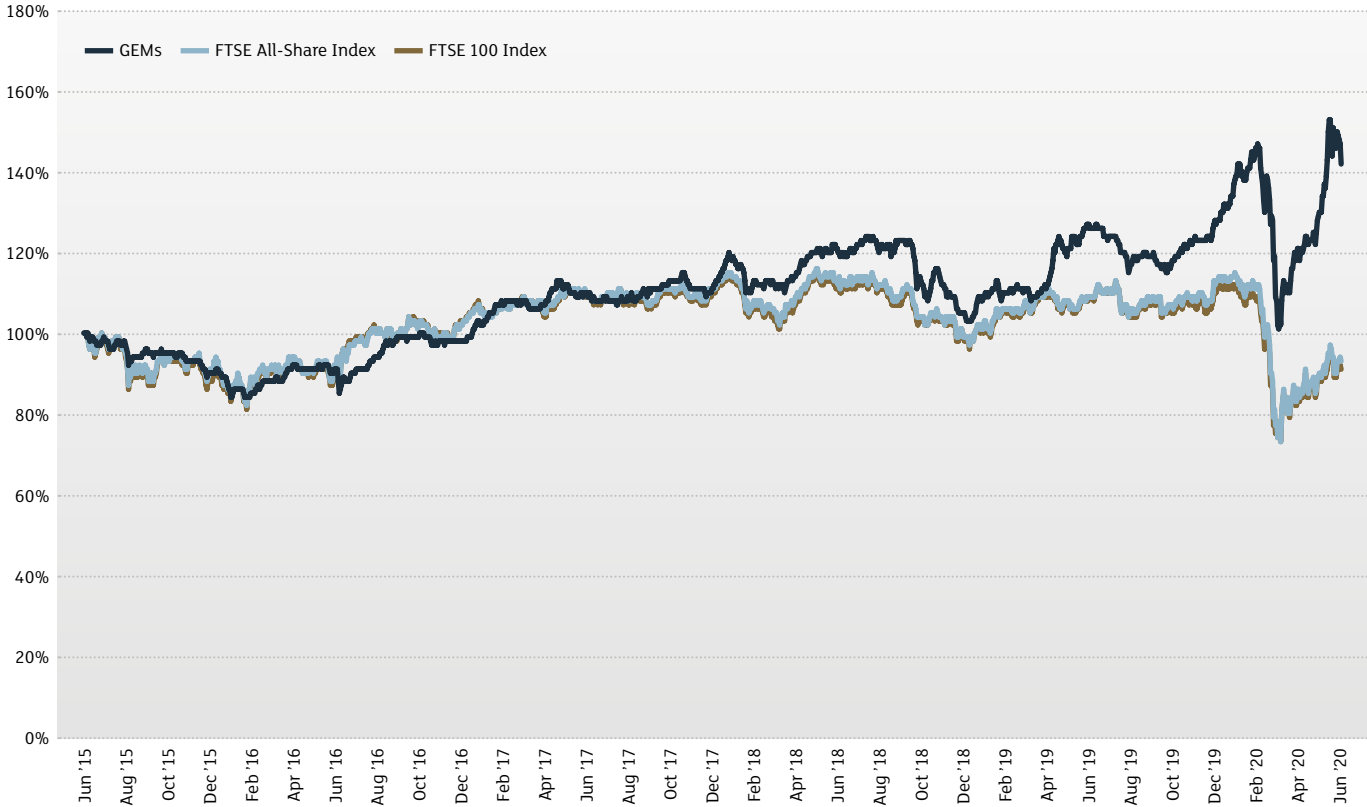
† (both primary and follow-on) over the past 12 months

Trends and analysis of the green economy

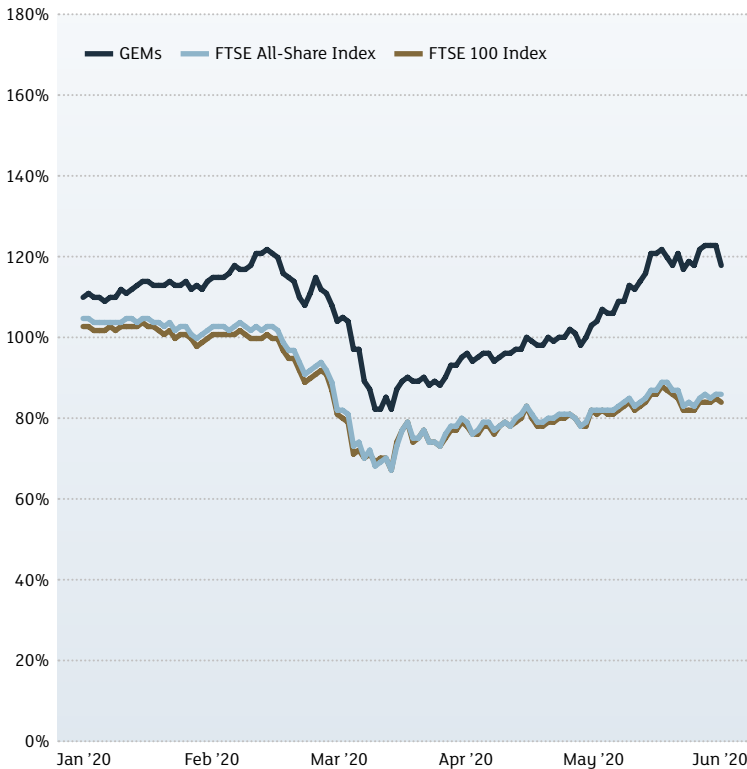
London Stock Exchange conducted analysis in the second quarter of 2020 to examine the scope of the green economy, and particularly of those companies and funds accredited with the Green Economy Mark. The resulting data shows the resilience and dynamism of the green economy and also provides evidence that on aggregate companies holding the Mark, of many sizes and sectors, have been able to raise significant capital and achieve strong returns over the period relative to the market.

Five-year Green Economy Mark issuers' share performance vs. benchmarks

As at June 2020



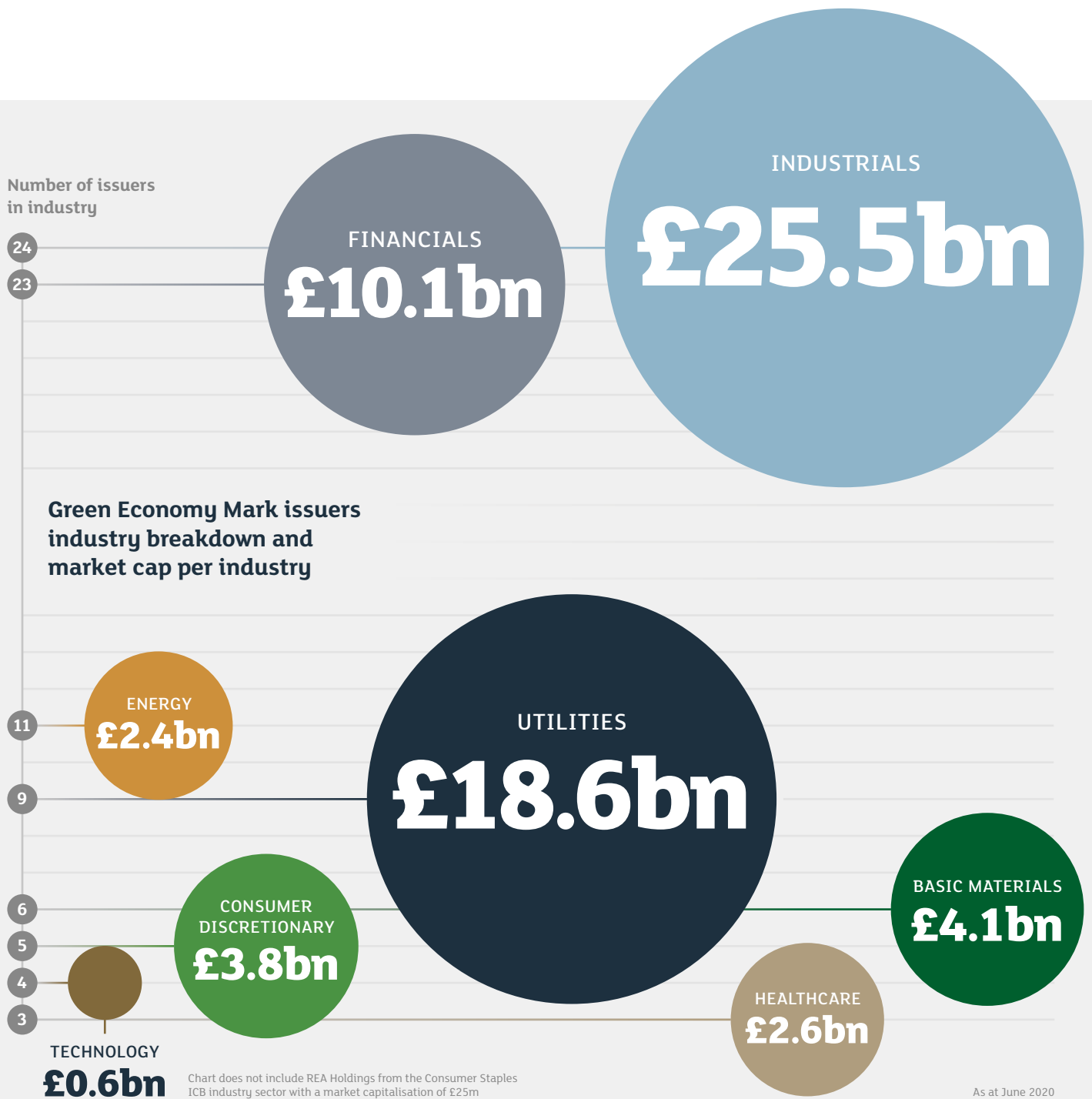
Year-to-date share performance Green Economy Mark issuers vs. benchmarks



As at June 2020

SHARE PERFORMANCE
 Aggregate share price performance of Green Economy Mark issuers exceeds the overall market.

Collectively, Green Economy Mark equities have tracked and to some extent, notably over the recent past, outperformed the FTSE All-Share Index over the past two years. While the markets experienced significant volatility as a result of the COVID-19 pandemic, Green Economy Mark equities in aggregate demonstrated greater resilience and subsequently recovered faster than the rest of the market.



Industrials represent the largest sector of the green economy both by number of issuers and market capitalisation. This is also true for issuers below the 50% threshold for the Mark that generate some level of green revenues.

54%

of Green Economy Mark issuers are in the industrials and financial services sectors

30%

of the utilities issuers listed on the London markets are Green Economy Mark issuers

When measured by the number of issuers, more than half (54%) of Green Economy Mark issuers are in the industrials and financial services sectors. This reflects the growing number of green investment trusts and VCTs with a specific green focus, for which investors have shown a strong appetite.

Utilities sector issuers with the Mark represent nearly one-third (30%) of the utilities issuers listed on the London markets. By market capitalisation, utilities is the second largest sector of Green Economy Mark issuers. There are nine utilities issuers with the Mark, compared to seven at launch last year.

While the majority of Green Economy Mark issuers are UK-based, more than half (57%) earn revenues from outside the UK – including 17 for whom international revenues represent more than 90%, for example Oxford Instruments and Xeros Technology.

Five of the eight issuers that are not UK-based are Ireland-based. Between them, they account for nearly one-quarter (24.5%) of the total market capitalisation of Green Economy Mark companies. The other three are based in Israel, Singapore and Australia.

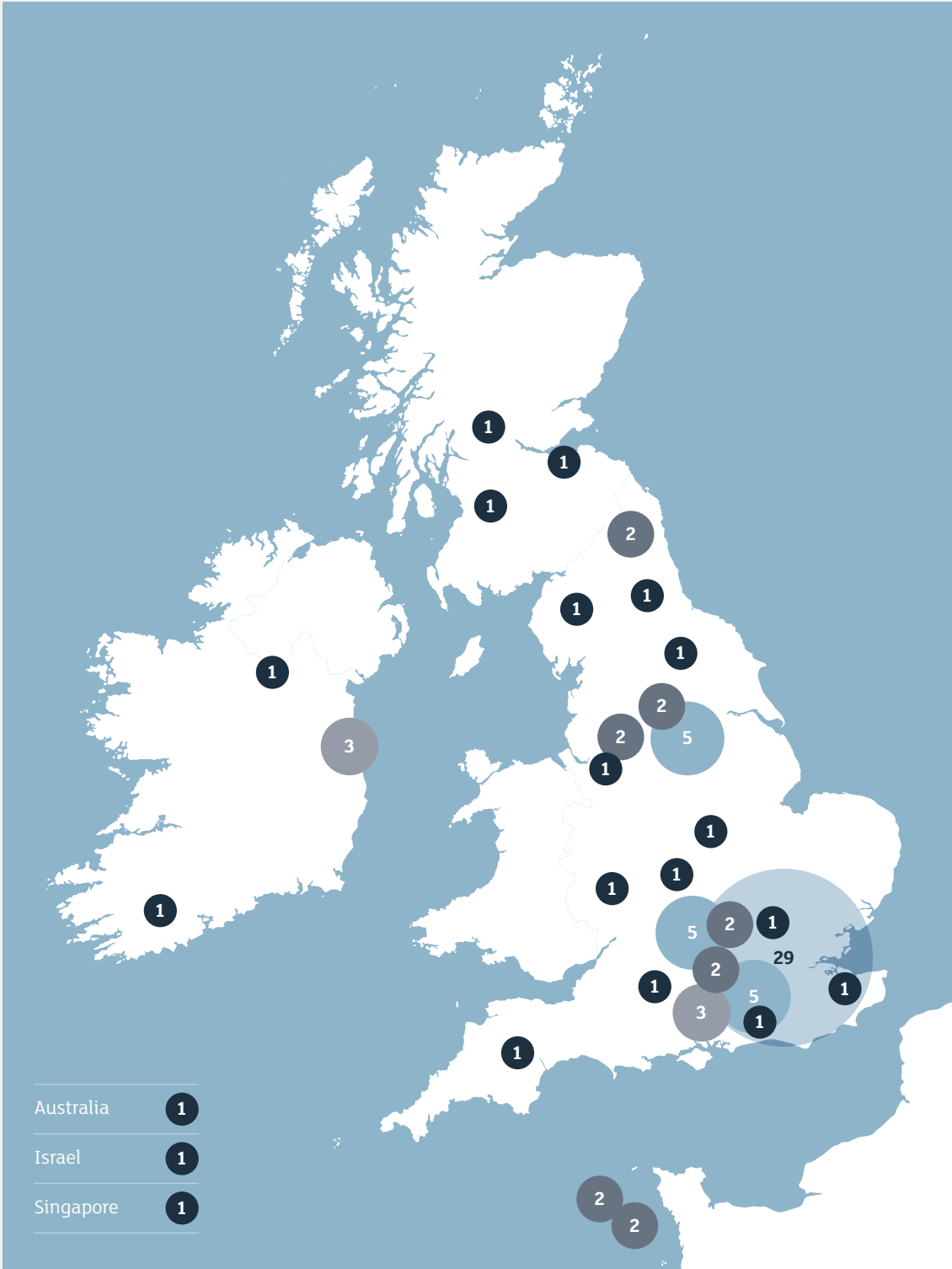
Regional representation of Green Economy Mark issuers

57%

of Green Economy Mark issuers earn revenues from outside the UK

17

issuers have 90%+ international revenues



8%

of all capital on London's markets is raised by Green Economy Mark issuers

Whilst representing a relatively small part of the overall population of listed companies and funds – just 4% of the total number of equity issuers, and 2% by total market capitalisation – Green Economy Mark issuers have raised significant amounts of capital in the past 24 months. The 86 companies and funds account for 8% of all capital raised on London's markets. If these issuers were grouped together as a sector, they would comprise the fifth largest sector for issuance on London's equity markets over this period, close behind the real estate sector.

Top five Green Economy Mark issuers: capital raising activity in 2020

Issuer	Date	Industry	Capital raised
Calisen plc	7 Feb	Utility & Energy: Diversified	£337m
National Express Group plc	6 May	Transportation: Services	£235m
Polypipe Group plc	7 May	Chemicals: Plastic	£120m
Renewables Infrastructure Group Ltd	21 May	Utility & Energy: Electric Power	£120m
SDCL Energy Efficiency Income Trust plc	24 Jun	Closed-End Funds	£110m

As at June 2020

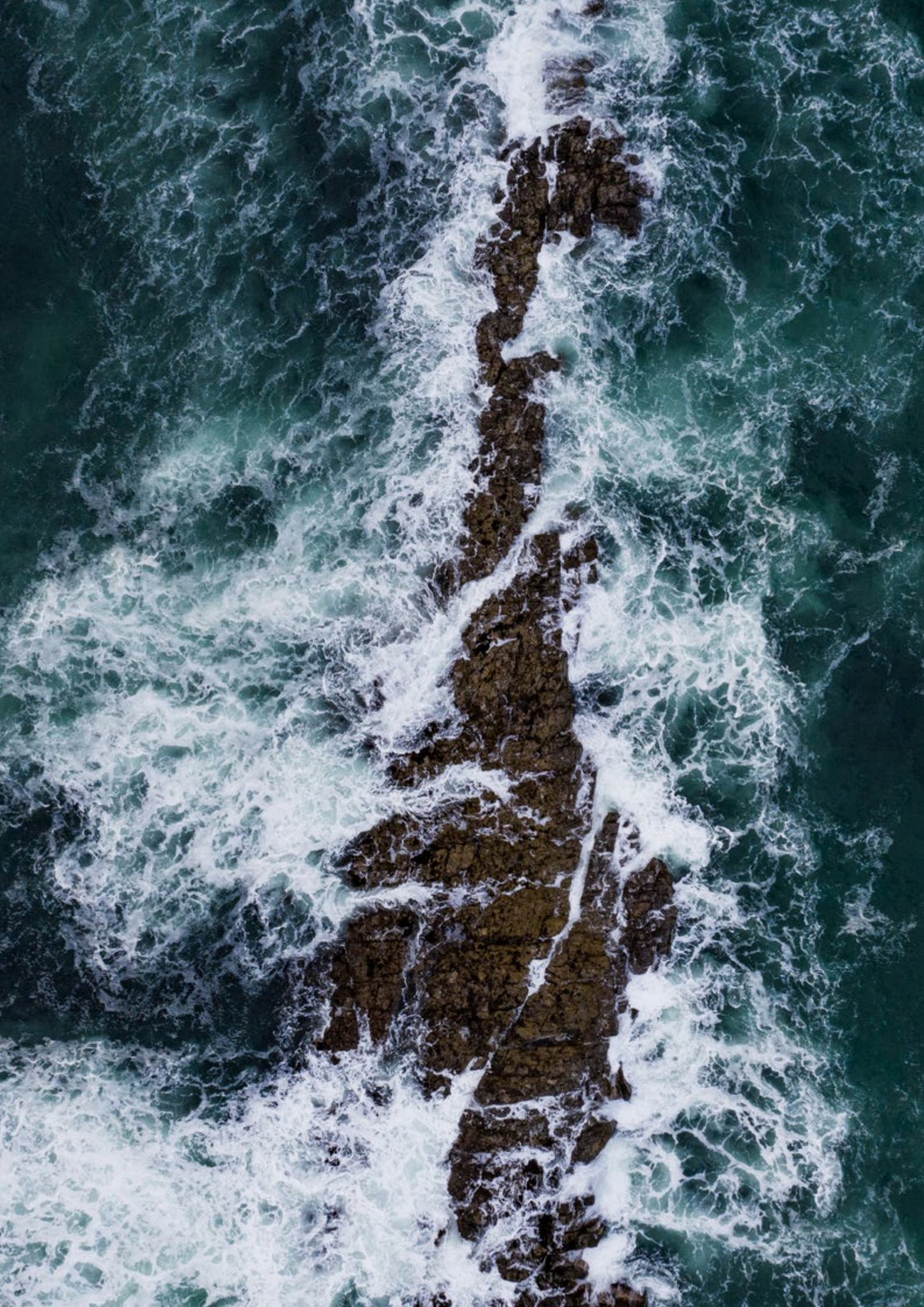
In 2020, 18 Green Economy Mark issuers have raised close to £1bn follow-on capital. The largest five issuers in the year to date reflect the diversity of industries and activities of the issuers as well as their varied use of proceeds from their fundraisings. Some are deploying capital to shore up balance sheets to manage the impact of COVID-19 and to reduce debt, while others are seeking to invest in new projects and to fund growth.



Capital raising over the last year



As at June 2020



Automobiles & Parts

TI Fluid Systems plc	Main Market
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Alternative Energy

Active Energy Group plc	AIM
AFC Energy plc	AIM
Ceres Power Holdings plc	AIM
EQTEC plc	AIM
Hydrodec Group plc	AIM
ITM Power plc	AIM
PV Crystalox Solar plc	Main Market
Simec Atlantis Energy	AIM
Velocys plc	AIM
Verditek	AIM

Chemicals

Applied Graphene Materials plc	AIM
Biome Technologies plc	AIM
Johnson Matthey	Main Market

Closed-End Investment Funds

Aquila European Renewables Income Fund plc	Main Market
Bluefield Solar Income Fund Ltd	Main Market
Foresight Solar & Infrastructure VCT plc	Main Market
Foresight Solar Fund Ltd	Main Market
Gore Street Energy Storage Fund plc	Main Market
Greencoat UK Wind plc	Main Market
Gresham House Energy Storage Fund plc	Main Market
Gresham House VCT 1 plc	Main Market
Gresham House VCT 2 plc	Main Market
Impax Environmental Markets plc	Main Market
John Laing Environmental Assets Group Ltd	Main Market
Jupiter Green Investment Trust plc	Main Market
Menhaden plc	Main Market
Nextenergy Solar Fund Ltd	Main Market
Octopus Renewables Infrastructure Trust plc	Main Market
SDCL Energy Efficiency Income Trust plc	Main Market
SQN Asset Finance Income Fund Ltd	Main Market
The Renewables Infrastructure Group Ltd	Main Market
US Solar Fund plc	Main Market
Ventus VCT plc	Main Market
Ventus 2 VCT plc	Main Market

Construction & Materials

Accsys Technologies plc	AIM
Kingspan Group	Main Market
Polypipe Group	Main Market
Renew Holdings plc	AIM
SIG plc	Main Market

Consumer Products & Services

Cairn Homes plc	Main Market
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Electricity

Good Energy Group plc	AIM
Greencoat Renewables plc	AIM

Electronic & Electrical Equipment

Cap-XX	AIM
Dialight	Main Market
Ilika plc	AIM
Modern Water plc	AIM
Oxford Instruments plc	Main Market
Proton Power Systems	AIM
Sabien Technology Group plc	AIM

Financial Services

Gresham House plc	AIM
Impax Asset Management Group plc	AIM

Food & Beverage

R.E.A Holdings	Main Market
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Gas, Water & Multi-Utilities

Amiad Water Systems Ltd	AIM
Armada Capital plc	AIM
Pennon Group	Main Market
Severn Trent	Main Market
United Utilities Group	Main Market

General Industrials

DS Smith	Main Market
Smurfit Kappa Group	Main Market
Symphony Environmental Tech. plc	AIM

Pharmaceuticals & Biotechnology

Benchmark Holdings plc	AIM
Eco Animal Health Group plc	AIM
Genus	Main Market

Industrial Engineering

Xeros Technology Group	AIM
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Precious Metals & Mining

Goldplat plc	AIM
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Industrial Goods & Services

TP Group plc	AIM
Water Intelligence plc	AIM

Software & Computer Services

Blanco Technology Group plc	AIM
Cloudcall Group plc	AIM

Industrial Materials

Cambium Global Timberland Ltd	AIM
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Support Services

Calisen plc	Main Market
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Industrial Support Services

eEnergy Group plc	AIM
Invinity Energy Systems plc	AIM
RPS Group	Main Market
Smart Metering Systems plc	AIM

Technology Hardware & Equipment

Nanoco Group	Main Market
Thorpe (F.W.) plc	AIM

Industrial Transportation

Fisher (James) & Sons	Main Market
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Travel & Leisure

Go-Ahead Group	Main Market
National Express Group plc	Main Market
Stagecoach Group	Main Market

Oil, Gas & Coal

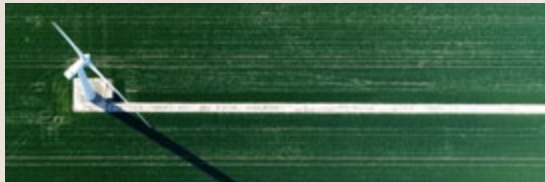
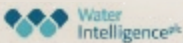
Tekmar Group plc	AIM
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Waste & Disposal Services

Augean plc	AIM
Biffa	Main Market
Renewi plc	Main Market

New Green Economy Mark issuers

These companies and funds have received the Green Economy Mark following the 2020 review⁵



SQN Asset Finance Income Fund*

An asset finance fund that comprises revenue from investments in waste collection and wastewater processing equipment, wind turbines, solar photovoltaic microchips and panels, combined heat and power equipment, and anaerobic digestion plant construction. SQN qualifies this year as a majority of its revenue now derives from green economy activities.

“At KKV Investment Management, we recognise the important role that fund management companies should play in promoting a greener economy. We support companies that work the “three R’s” of a sustainable economy; repurposing waste, recycling and renewable energy. This segment of the market is key to our investment strategy and the returns we deliver for our investors.”

Dawn Kendall CIO



Gresham House

Three funds run by this asset manager have already received the Green Economy Mark. Gresham House now qualifies at a corporate level because the majority of its revenue now derives from sustainable funds, demonstrating that fund managers with a track record of delivery in this space can return to the market for further capital.

“With the Green Economy Mark, people can see that a Gresham House product is associated with positive principles of sustainability.”

Tony Dalwood Chief Executive Officer



Water Intelligence

A leading environmental services and technology company focused on detecting, finding and remediating water leaks to help customers conserve water. Water Intelligence now qualifies as a result of inclusion in the FTSE Russell Environmental Opportunities AIM index.

“We are proud to communicate the Green Economy Mark to our water and infrastructure stakeholders across the UK, US, Australia and Canada. Our AIM investors have led the way to fuelling our strong growth over the past five years. Even during COVID-19, Water Intelligence is delivering to its global customer base to provide essential services.”

Dr Patrick DeSouza Chairman



TP Group

A consulting, digital solutions and engineering services firm, providing its professional expertise to the energy sector, for hydrogen fuel generation and AI technologies for autonomous vehicles. TP Group now qualifies for the Mark as a result of inclusion in the FTSE Russell Environmental Opportunities AIM index.

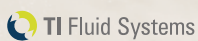
“We are delighted to be recognised for our ongoing work within the renewables industry and in particular for our hydrogen energy systems and carbon capture solutions. This classification is a testament to our ability to help our clients reduce their environmental footprints and meet their sustainability targets.”

Phil Cartmell Chief Executive Officer

5. Based on FTSE Green Revenues Data; FTSE Russell Environmental Opportunities AIM index constituents; and LSE plc approvals of issuers as at 29 June 2020. Information on all Green Economy Mark issuers is available on www.londonstockexchange.com and on the issuers' websites.

* This fund is now managed by KKV Investment Management.




SIG plc

One of Europe's leading distributors of specialist building products, it invests in capital projects and the installation of energy-efficient technology, which includes thermal and interior insulation products, solar thermal water heating systems, LED lighting and roofing. SIG plc now qualifies for the Mark because over 50% of its revenues are derived from green activities, such as solar panel roof installation, which leads to reduced energy production.

“SIG’s mission is to enable modern, sustainable and safe living and working environments in the communities in which we operate. We are delighted to be recognised under this initiative by London Stock Exchange and welcome the opportunity to input into a sustainable economy. We look forward to making further progress on our sustainability activities and we will continue to focus on driving improvements for a more sustainable future.”

Steve Francis Chief Executive Officer



Cairn Homes

A leading home builder in Ireland, dedicated to building homes and communities that are energy efficient, environmentally friendly and contribute to biodiversity in Ireland. Cairn Homes now qualifies for the Mark because over 50% of its revenues are derived from green activities, such as building energy efficient homes with features such as roof-mounted PV cells, air-to-water heat pumps and condensing gas boilers.

“At the heart of Cairn’s culture is an absolute commitment to the environment in which we operate and contribute to. We build new homes and communities that are energy efficient, environmentally friendly and contribute to biodiversity across the country. The Green Economy Mark from London Stock Exchange reflects this focus.”

Michael Stanley Chief Executive Officer



National Express

More than 938m passenger journeys are made on its services annually in recent years. Public transportation is a key part of low-carbon transport solutions given the carbon savings versus individual private car usage. Operating on the belief that growing public transport usage is part of the solution for reducing the UK's impact on climate change, a growing proportion of its vehicles are hybrid, electric and biodiesel in line with its aim to reduce its carbon emissions.

“I am delighted National Express Group has received the London Stock Exchange Green Economy Mark. With pledges such as never buying a diesel bus again in the UK, we have sought to extend public transport’s inherent green credentials. We are determined to act further and continue to lead our industry.”

Dean Finch Group Chief Executive Officer



TI Fluid Systems

A leading global manufacturer of fluid storage, carrying and delivery systems, its mission is to support the world's transition to greener vehicles and a cleaner environment. Its green revenues derive from a range of products including ones that help to reduce NOx emissions, systems and components for hybrid and EV lithium-ion battery packs and for hydrogen powered vehicles.

“As a leading global manufacturer of highly engineered fluid and thermal management systems, TI Fluid Systems enables vehicle manufacturers to sustainably reduce CO₂ emissions and improve fuel economy. We look forward to continuing to support our world’s transition to greener vehicles and keeping our environment clean, making our world a better place to live.”

Bill Kozyra Chief Executive Officer and President

An aerial photograph of terraced rice fields in a lush green landscape. The fields are arranged in a series of curved, concentric terraces that follow the contours of a hillside. The water in the fields reflects the sky, creating a shimmering effect. The surrounding area is covered in dense, vibrant green vegetation, including trees and shrubs. The overall scene is a beautiful example of sustainable agriculture and landscape management.

“Investors around the world are increasingly looking for exposure to rapidly growing environmental markets and the Green Economy Mark is a great signpost for such interest.”



Case studies

The breadth of the green economy, as represented in the activities of the Green Economy Mark issuers is striking. This is exemplified in the following case studies⁶. They show how, alongside young innovative businesses, many long-established companies are driving the green economy forward.

The Green Economy Mark has already become a valuable asset for issuers to raise their profile and visibility among investors. “Investors around the world are increasingly looking for exposure to rapidly growing environmental markets and the Green Economy Mark is a great signpost for such interest,” says Ian Simm, CEO of Impax Asset Management.

As Gresham House and Good Energy observe, the Mark enables institutional and retail investors to identify quickly those companies and funds that are aligned with their own focus on environmental and sustainability issues. “The Green Economy Mark helps us put our head above the parapet and provides a pointer for funds and individual investors to take a look at us – as a company that is delivering clear environmental and societal improvements,” says Mark Nichols, CEO of Xeros Technology.

The positive message that accreditation with the Mark communicates – and not just to investors – is recognised by Michael Topham, CEO of waste management company Biffa. He says the Mark “will have a big impact as sustainability really matters in the public markets, as well as with our employees, customers and wider stakeholders.” This view is also reflected by Oxford Instruments, DS Smith and Johnson Matthey.

⁶ The case studies in this section have been chosen to illustrate the diversity of the sectors covered. For a full list of the 86 Green Economy issuers see page 11. The full list is also accessible via www.londonstockexchange.com/green-economy-mark-issuers. The information contained in the case studies has been provided by the companies.

CASE STUDY: BIFFA

Don't let a green opportunity go to waste



Waste management company

Twenty years ago, Biffa was a “linear economy business” that carried waste to landfill sites or shipped it abroad for incineration, reflects its CEO Michael Topham. Today, he says, everything in the company is about sustainability. “There is not a single thing that isn’t moving us in this direction.” That linear model is rapidly turning circular.

“There has been a sea change in attitudes among investors, employees, customers and regulators,” says Topham. Government policy has been a major driver of change. The UK Government’s Resources and Waste Strategy has set out changes such as mandating separate food waste collections in households and businesses in England; the introduction of a tax on plastics unless they contain a minimum of 30% recycled content; and shifting the burden of costs onto producers of waste.

65%

reduction in CO₂ emissions by Biffa since 2002

“This has created a backdrop against which we can invest with confidence,” says Topham. Biffa’s operations span collection, recycling, treatment, disposal and energy generation. Currently, it collects 15,000 tonnes of rubbish every day from around 76,000 businesses and 2.2m households.

Its ‘Resourceful, Responsible’ sustainability strategy, which was published in March 2020, intends to unlock £1.25bn of investment over the next ten years in UK green economy infrastructure.

It is investing heavily in closed-loop plastic recycling, turning waste plastic into food-grade materials that are a substitute for virgin plastic.



It is investing in two energy-from-waste plants which could produce enough energy to power approximately a further 170,000 homes. These plants use waste that either cannot be recycled or where recycling is too energy intensive. Each one is a costly and complex undertaking that requires its own project finance. It is a form of infrastructure in which the UK is currently “behind the curve” in terms of capacity, says Topham.

Another area of focus is reducing the carbon of its collection business, by improving route densities and, over the medium term, moving to electric collection vehicles. “We want to have the lowest carbon collection fleet in the country,” says Topham. Having reduced CO₂ emissions by 65% since 2002, Biffa is targeting a further 50% reduction in emissions by 2030.

“We can demonstrate to our investors that our mix and source of earnings is shifting and coming from sustainable sources,” says Topham. Providing this narrative has made a difference.

Receiving the Green Economy Mark reinforces this narrative. “I was delighted when we learned about it,” says Topham. “The actions we have been taking and our ambitious sustainability strategy do warrant it. I have no doubt it will have a big impact as these things really matter in the public markets, as well as with our employees, customers and wider stakeholders. The Green Economy Mark is a great mark of confidence in who we are and what we are doing.”



Michael Topham
CEO, Biffa

“I have no doubt the Green Economy Mark will have a big impact as sustainability really matters in the public markets, as well as with our employees, customers and wider stakeholders. It is a great mark of confidence in who we are and what we are doing.”

CASE STUDY: CALISEN

Tracking and accelerating the arrival of a green energy economy



With its IPO in February 2020, Calisen became the first company to qualify for the Green Economy Mark at admission to London Stock Exchange's Main Market. "We are proud of that – and nobody can take that away from us," says CEO Bert Pijls.

The company procures, owns, installs and manages electricity and gas meters for energy retailers. Smart meters comprise more than 60% of its meters, meaning that almost two-thirds of Calisen's revenues are directly related to the provision of equipment that could help reduce energy usage.



Bert Pijls
CEO, Calisen

"Being able to say that we were expecting to receive the Green Economy Mark on admission proved to be very beneficial in our conversations with investors."

"Smart energy meters play a crucial role in accelerating the arrival of a green economy," says Pijls. Consumers can save energy and money and thus reduce their carbon footprint as a result of their installation – but their real value lies in the fact they are a building block for a fully digital energy market. Products such as smart 'time of use' tariffs incentivise consumers to save money by using energy away from peak times and enable technologies such as electric vehicles and smart appliances to be cost-effectively integrated with renewable energy sources.



The Government has mandated the roll-out of approximately 52m smart energy meters in homes across the UK by 2024 and it is a central plank in the planned transformation of UK energy. Currently, smart meters account for 39% of all domestic and small business installations. According to Pijls, this means that Calisen could have "an enormous pipeline of growth to fund". The IPO raised primary proceeds of £300m for direct investment in the business.

On the IPO roadshow, says Pijls, "we saw more than 130 investors and everyone asked about our ESG credentials. It is a much bigger thing in the investment world than most people realise. Being able to say that we were expecting to receive the Green Economy Mark on admission proved to be very beneficial in our conversations."

It will not be long, he believes, before a clear and full demonstration of an ESG strategy will become "a ticket to be at the game. Companies must be sustainable or they will either not get access to funds or will become uncompetitive because their cost of capital will increase."

The IPO process and the Green Economy Mark has also focused minds internally. Pijls is taking a long hard look at Calisen's capacity to become a net-zero enterprise. Establishing a framework for such improvements is a personal objective for Pijls set by the Calisen board. "We all have to be more thoughtful about how we can get ourselves to the next level," he says. "Receiving the Green Economy Mark means that we have to up our game still further."





CASE STUDY: DS SMITH

Packaging up a sustainable solution



One of the four strategic goals of 80-year-old packaging company DS Smith is to lead the way in sustainability. “From recyclability, to climate change, to pressure on water sources, packaging must play a role in facilitating a more circular economy and we must tackle systemic sustainability challenges,” writes its CEO Miles Roberts in the company’s annual sustainability report.

Today, the company that began as a box-maker in East London operates across 37 countries and employs c. 30,000 people. It has set ambitious long-term sustainability goals, including 100% manufacturing of recyclable or reusable packaging by 2025 and zero water impact and waste to landfill by 2030.



Hugo Fisher
Group Investor Relations Director,
DS Smith

“The Green Economy Mark sends a positive message to all our stakeholders and helps in terms of investor perceptions.”

The company has developed a circular business model – described as ‘box to box in 14 days’ – in which it harvests paper and cardboard that is recycled to manufacture paper which then becomes the primary raw material for its packaging manufacturing sites. In 2019, it announced a global partnership with the Ellen McArthur Foundation to identify further opportunities to redesign materials, business models and waste streams.

The rise of e-commerce, which has been accelerated by the impact of the COVID-19 pandemic; the quest for sustainable solutions to replace plastic packaging; and demand for more sophisticated packaging from retailers, are three big factors behind its recent growth.

DS Smith’s customers are primarily in the FMCG and e-commerce sectors. Here the opportunity for innovation and growth in the use of non-plastic packaging is substantial. Fully recycled and recyclable corrugated packaging can be a substitute for plastic – for example, fruit punnets – and this trend is set to continue as customers commit to reduce plastic usage in the years ahead.

Another area of customer focus is traceability in the supply chain, says Group Investor Relations Director Hugo Fisher. “Customers want to know about the source of materials back to the individual forest or a particular recycling plant to have confidence they are sustainably sourced. The level of scrutiny, audit and tracing is very significant – and we apply the same rigour through our own supply chain.”

The same degree of change has been experienced in its engagement with investors around sustainability. “It has grown exponentially over the past five years,” says Fisher. “Then, it was a relatively niche interest. Now it is part of the discussion at every investor meeting and is increasingly reflected in the composition of our share register.”

In this context, he says, the Green Economy Mark is a valuable benchmark for DS Smith. “It sends a positive message to all our stakeholders and helps in terms of investor perceptions.” And it’s a message that the company is not going to put back into a box.





CASE STUDY: GOOD ENERGY

Scaling up energy sharing



Renewable
energy supplier

When Good Energy was founded in 1999, 2% of UK energy was generated from renewable sources. Today, they comprise up to 40% of the national fuel mix – and that share is rising – reaching as high as 66% over one particularly hot and windy weekend in May 2020.

All of the power supplied by Good Energy comes from renewable sources. The electricity it provides is sourced from approximately 1,700 locations across the UK, drawing from sun, wind, rain and biofuels, including the six solar parks and two wind farms the company owns. Ten per cent of the gas it supplies is carbon neutral biogas, produced from food waste, with the remainder carbon offset through various projects worldwide.



Juliet Davenport
CEO, Good Energy

“The Green Economy Mark is really timely and means that investors in Good Energy can be reassured that their investment won’t cost the earth.”

“We are leading the market in a shift to low-carbon energy services, as the UK moves towards a zero-carbon economy,” says its founder and CEO Juliet Davenport.

There has been a “secular shift in customer demand following a growing societal awareness,” she says. This has not been limited to households but businesses and financial institutions as well. Understandably, the number and supply volumes of Good Energy’s business customers is growing. “Demand for green propositions is now firmly part of the mainstream conversation,” says Davenport.

Good Energy’s role in the green economy was recognised in its Green Economy Mark accreditation. “It is really timely and means that investors in Good Energy can be reassured that their investment won’t cost the earth,” says Davenport.

That palpable sense of mission is shared with many of its customers and shareholders: it is the only UK energy company to have more home-generation customers than supply; and 60% of its shareholders are customers, as are 80% of its bondholders?

Good Energy has been a pioneer of a localised approach to energy by supporting home generation. Its HomeGen scheme, launched in 2004, became the blueprint for the Feed-in Tariff. It foresees the UK’s clean energy grid being increasingly comprised of millions of households and businesses generating, using and sharing clean, renewable power.

It has invested in innovative technology-based clean energy services such as Zap-Map, which creates opportunities to launch products and services in zero-emission transport – and in services such as One Point, enabling businesses to offer EV charging to staff, customers and visitors. Significant potential lies in ‘vehicle to grid’ systems, where an electric vehicle is used alongside a special charger and other home systems.

“We are witnessing a sea change in the relationship the UK has with energy – a shift from supplying to sharing,” Davenport says. “As decentralisation, digitalisation and decarbonisation become the new norms, we are anticipating a gear-shift that could lead to significant growth opportunities.”

7. <https://group.goodenergy.co.uk/investor-centre/bond-information/our-bonds/default.aspx>

CASE STUDY: GRESHAM HOUSE

The house of sustainability


Gresham House
 Specialist asset management
 Specialist alternative
 asset manager

Founded in 1857, and thus one of the oldest companies in London, Gresham House has been rejuvenated since it was acquired in a 2014 management buy-in. Now it is a specialist alternative asset manager focusing its expertise in renewable energy generation, battery storage, solar power, wind, forestry, infrastructure funds and public and private equity investment strategies. It has built assets under management (AUM) to c.£3.2bn.

“We are committed to operating responsibly and sustainably, taking the long view in delivering sustainable investment solutions,” says CEO Tony Dalwood. “Our ambition is to be one of the leaders in ESG and sustainable investing.”



The appetite for more sustainable investment vehicles is growing. Solar and wind power, Dalwood points out, are now recognised asset classes under renewables. Other assets, such as waste recycling and vertical farming, will become similarly established.

The Gresham House Energy Storage Fund plc (GRID) is one example. As the share of renewable energy generation in the UK expands, so too does the necessity to store it. GRID, which raised £100m at its IPO in December 2018 and has since raised a further £107m via a series of placings, invests in a portfolio of utility-scale operational energy storage systems (ESS) in the UK, primarily using batteries.

GRID, along with the firm’s two renewable energy VCTs, both received the Green Economy Mark when it launched in 2019. This year it was announced that the company itself has also received the Mark. The Mark provides the funds with recognisable credentials and a strong benchmark for investors, says Dalwood. “With the Green Economy Mark, people can see that a Gresham House product is associated with positive principles of sustainability. We are aiming to build a brand that generates goodwill and one of the most important aspects of that is being an ESG capable fund manager,” he says.

In the six years since Dalwood became CEO of Gresham House, the investor agenda has changed enormously. “Then, ESG was relatively niche; today it’s at the investment core for all our clients. Investors assumed there had to be a trade-off between financial and non-financial returns. No longer.”

The momentum behind ESG will only accelerate in the wake of the COVID-19 pandemic. “The crisis will prompt asset allocation reviews,” he says, “and those reviews will place ESG at the top of the agenda.”

“With the Green Economy Mark, people can see that a Gresham House product is associated with positive principles of sustainability.”



Tony Dalwood
 CEO, Gresham House

It is a sign of the investor support created by its approach that, despite the turbulent market conditions of March 2020, Gresham House was able to fortify its balance sheet and liquidity by raising £8m through a placing.

Sustainability is at the core of many of its activities. Its forestry division planted more than 4.1m UKWAS-certified forests in 2019, while the firm’s New Energy division operates 195MW of wind farms and solar parks.



CASE STUDY: IMPAX ASSET MANAGEMENT

Strong returns from a belief in green

IMPAX Asset Management

Specialist
asset manager

Impax Asset Management was founded in 1998 with the belief that strong returns could be made by investing in companies that were well-placed to thrive in the transition to a more sustainable economy.

“Our initial thesis remains intact and robust,” says CEO Ian Simm. “That capital markets will be shaped profoundly by global sustainability challenges, including climate change, pollution, natural resource constraints, and demographic and human capital issues such as diversity, inclusion and gender equity. These trends will drive growth for well-positioned companies and create risks for those unable or unwilling to adapt.”

The firm’s track record is testament to this conviction. “We started from scratch and today we have a market capitalisation north of £500m,” says Simm. As at 30 June 2020, the firm’s assets under management stood at £18.1bn.



In 1999 Impax developed the Environmental Technology 50 (ET50) index and in 2007/2008 it developed a partnership with FTSE Russell who took over calculation of the index and built it into a wider series. This also led to the launch of the FTSE Environmental Markets Classification System, the precursor to the Green Revenue Classification System, and the collaboration between FTSE Russell and Impax has continued to this day.

Its investor base has also expanded considerably. Historically, Europe has been the most active but now North America accounts for one-third of AUM and the big new frontier is Asia, where Simm sees a lot of potential and investor appetite in Japan and China. Today, 90% of its investor base lies outside the UK.



Ian Simm
CEO, Impax

“Investors around the world are increasingly looking for exposure to rapidly growing environmental markets and the Green Economy Mark is a great signpost for such interest.”



“The environmental sector appeals to both institutional and retail investors,” he says. “It has great performance characteristics and an attractive market position. We have a commercially viable offering that appeals around the world. Little wonder that the firm is a two times winner of a Queen’s Award for Sustainable Development.

Its own commitment to environmental improvement and its investment approach means that Impax is in a unique position: both the company and one of its funds have been accredited with the Green Economy Mark. “We are delighted with that,” says Simm. (The product is its flagship UK investment trust, Impax Environmental Markets plc, which has an 18-year performance record and has been managed by the same team since inception. In 2019 it joined the FTSE 250 index.)

“The Green Economy Mark is a creative and very welcome initiative by London Stock Exchange,” says Simm. “Investors around the world are increasingly looking for exposure to rapidly growing environmental markets and the Green Economy Mark is a great signpost for such interest.”

CASE STUDY: JOHNSON MATTHEY

Investing in green chemistry



The long-term transition to green infrastructure is where significant commercial opportunities lie for Johnson Matthey. It is commercialising its portfolio of next generation, ultra-high energy density cathode materials for battery cells in hybrid and full electric cars. These reduce the time a battery takes to charge, and extend the distance fully charged electric vehicles can travel.

The company provides expertise and solutions in hydrogen production technologies. One process produces low-carbon hydrogen (LCHTM) or “blue” hydrogen and JM is already starting to commercialise this technology. It is collaborating on one of the UK’s leading low-carbon hydrogen projects – HyNet North West – which will use its low-carbon hydrogen technology in a refinery for the first time.

JM is also well-positioned in the development of fuel cells which will play a key role in the decarbonisation of transport. The company already supplies fuel cells for various power generation applications and is increasing its manufacturing capacity in this area.

“We are not slowing down on our investment into sustainable technologies,” says Blakeman. “If everyone thinks like us, that will be a good story for the world.”

Global science and
chemicals company

Johnson Matthey (JM) is a global leader in science that enables a cleaner, healthier world. The company is over 200 years old and has a long history of using its knowledge to improve the environment, for example producing the first emission control catalyst in 1974, which enabled car companies to cut exhaust emissions and improve air quality around the world. Today, one in every three new cars carries an emission control catalyst from JM.

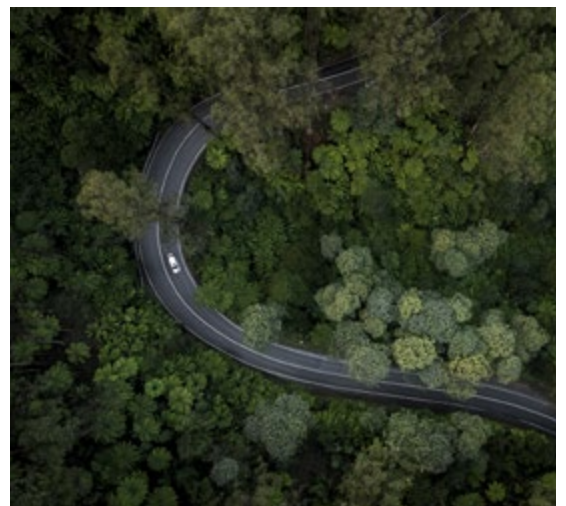
Increasingly, JM’s chemical science and research expertise is being directed towards the challenge of climate change.



Phil Blakeman
Sustainability Director,
Johnson Matthey

“Being accredited with the Green Economy Mark demonstrates that our focus on sustainability also drives the revenues of our business.”

“Sustainability is an integral part of our company, our strategy and the decisions we take,” says Phil Blakeman, Sustainability Director at Johnson Matthey. “Being accredited with the Green Economy Mark demonstrates that our focus on sustainability also drives the revenues of our business.”





CASE STUDY: OXFORD INSTRUMENTS

Succeeding in a material world

OXFORD
INSTRUMENTS

Manufacturing and
research company

Making a positive impact has been at the heart of Oxford Instruments from its beginning; the funds it raised from its IPO in 1983 enabled it to play a central part in the development of the MRI scanner.

A complex and multi-faceted high-technology company serving many end markets, Oxford Instruments provides systems and tools to industrial companies and scientific research communities to image, analyse and manipulate materials down to the

With the automotive industry, for example, Oxford Instruments is working to improve battery performance of electric vehicles and thereby increase range, boost recharge speeds and reduce energy loss. The company's expertise in advanced materials is also helping to make cars lighter, more durable and sustainable by reducing fuel consumption and levels of waste. Its know-how is being used to improve the performance of tyres – so that they give off fewer particulates when braking – and developing advanced sensors for autonomous vehicles.



Vikki Gault
Group Director of
Communications,
Oxford Instruments

“The Green Economy Mark was an external measure from an internationally renowned organisation and was perceived as recognition that our strategy was working and making an impact. We made sure that everyone inside the company knew about it.”

atomic and molecular level. Its solutions are being used by customers to find cures for cancer, expedite space exploration and develop next generation electronics, advanced materials and quantum technologies.

Increasingly, sustainability issues “are front and centre of our strategy and purpose,” says Group Director of Communications Vikki Gault. “We address some of the world’s most pressing challenges and one main area of focus is helping to facilitate a greener economy.”

This high level of technical expertise puts Oxford Instruments at the forefront of many developments across the green economy. “Our solutions help to drive the green agenda of many of our customers,” says Gault. This ranges from semi-conductors to produce more efficient battery chargers, to photovoltaic technologies designed to make solar panels larger, more flexible and durable.

For Oxford Instruments, the opportunity and the challenge is ensuring that larger numbers of people understand the contribution that it is making. “We are a complex business,” says Gault, “and we have to communicate not just about how products work but how they make the world better.”

Receiving Green Economy Mark made the company “stop and think – in a positive way – about what we do,” says Gault. “It was an external measure from an internationally renowned organisation and was perceived as recognition that our strategy and making an impact. We made sure that everyone inside the company knew about it.” The Mark also appears in all meetings with new investors and customer presentations, alongside the company’s Queen’s Awards for Export and Innovation. “It has given us a boost and we are proud of it.”

CASE STUDY: XEROS

Making waves by saving water



Technology company
reducing water
consumption

Alleviating some of the world's most pressing environmental challenges by improving the sustainability of the clothes we all wear is a significant ambition for a 50-employee company. But that is the goal of Rotherham-based Xeros Technology Group which has developed technologies to reduce consumption of water and to mitigate microplastic pollution in the oceans.

The manufacture and washing of garments are water and energy intensive, generating pollution and carbon emissions. Xeros Technology's proprietary XOrbs™ – spherical shaped polymers – replace up to 70% of the water used in these processes, while also reducing energy use, costs and achieving better results than conventional methods. "We are helping the apparel industry become better, greener, cheaper and faster," says CEO Mark Nichols.



Mark Nichols
CEO, Xeros

"The Green Economy Mark helps us put our head above the parapet and provides a pointer for funds and individual investors to take a look at us – as a company that is delivering clear environmental and societal improvements."



Domestic laundry is also a major source of microplastic pollution, he adds. The microfibres that are shed from synthetic textiles – used in 60% of the world's garments – leach out when washed; they account for 500,000 tonnes of microplastic entering the oceans each year. XFiltra™, the filtration technology developed by Xeros aims to capture 99% of these microfibres, preventing their release into the marine environment. "We probably know more about this subject than any other company on the planet," says Nichols.

The Xeros business model is based on being IP-rich and asset light, says Nichols. The company licenses its innovations to appliance manufacturers, under long-term commercial arrangements, in exchange for royalties. It has recently signed a license agreement with Ramsons, one of the largest garment finishing equipment suppliers in South Asia.

"It is a long and arduous journey for a small company to get a new technology incorporated into an established market," Nichols observes. But three strong tides are running in the company's favour, he says. For major machine manufacturers, the cost/benefit proposition of the technology alongside its environmental advantages is persuasive. Consumers are increasingly demanding sustainability in the clothes they buy. Tighter regulations are being introduced – for example, the French government has stipulated that all new household washing machines must have microfibre filtration by the end of 2024.

The visibility provided by the Green Economy Mark could not have been more timely, Nichols says. "It helps us put our head above the parapet and provides a pointer for funds and individual investors to take a look at us – as a company that is delivering clear environmental and societal improvements."





About the Green Economy Mark and green revenue disclosure



The underlying methodology for the Green Economy Mark is the Green Revenues Data Model developed by FTSE Russell. This was derived in part from the FTSE Environmental Markets Classification System, originally co-created with Impax Asset Management. This identifies activities within industrial sectors and sub-sectors that are contributors to a greener, more sustainable economy.

It is intentionally broad but also granular, capturing revenues within 130 defined micro-sectors of the economy that address environmental challenges such as climate change mitigation and adaptation, water, resource use, pollution and sustainable agriculture.

The Mark identifies London-listed companies and funds on all segments of the Main Market and AIM that generate between 50% to 100% of their total annual revenues from products and services that contribute to the global green economy as defined by the above methodology. To ensure that all issuers are able to qualify, the Mark is also given to issuers included within the FTSE Russell Environmental Opportunities AIM index. Furthermore, any issuer may apply to have its green revenues considered for the Mark via London Stock Exchange's Issuer Services team.

The 50%+ threshold for the Mark ensures that a majority of the issuer's activities and a material revenue contribution stems from the green economy. This broader focus, moving beyond traditional 'green' industries, recognises that a growing number of companies across all industries are driving the transition to a sustainable economy.

As the transition to a low-carbon economy accelerates and proportions of green solutions generate a larger percentage of company and fund revenues, we may expect to see an increase in the number of companies and funds with the Mark. But the list is not just additive: companies may cease to qualify for the Mark for a variety of reasons, such as reflecting the impact of a strategic disposal, spin-out or changes in the proportion of revenues derived from certifiably sustainable products.

Full details of the Mark can be found in the associated [Green Economy Mark factsheet](#) and the [FTSE Russell Green Revenues Data Model](#).

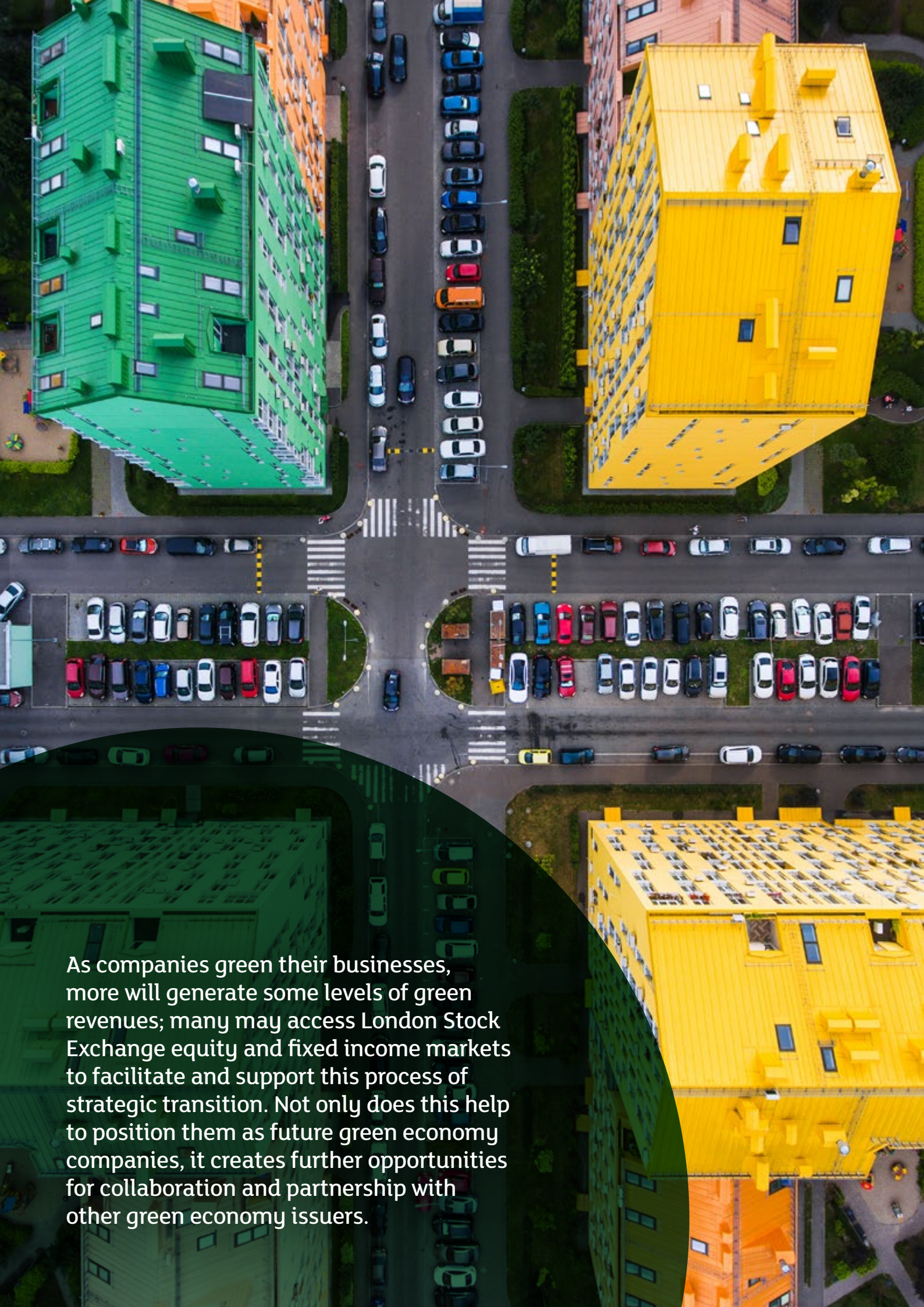
Investors increasingly want to understand how companies in their portfolios are changing their exposure to green revenues sub-sectors and therefore need issuers to provide more detailed revenue breakdown, at a green sub-segment level, to measure this.

Some of the world's largest investors are actively allocating additional capital to companies with higher green revenue exposure, so better reporting may directly lead to greater investment flows.

While the Mark supports issuers in this respect, there are other actions that issuers can take to show how they are engaging with the transition to a sustainable future:

- 1. Understand opportunities in the transition to a green economy.** Identify parts of the business that manufacture or provide goods, products and services driving value for the business and delivering environmental solutions.
- 2. Identify green revenues.** Provide details of the revenues resulting from 'green' goods, products and services. Connect to the climate impacts of the business.
- 3. Ensure that reporting on green revenues is integrated with both wider financial reporting and with carbon strategy, emissions data and performance reporting.**
- 4. Talk about where the future lies.** Discuss how investment in innovation and R&D will support the transition to a green economy.

Detailed guidance for issuers on ESG disclosure can be found in the [Guide to ESG Reporting](#).



As companies green their businesses, more will generate some levels of green revenues; many may access London Stock Exchange equity and fixed income markets to facilitate and support this process of strategic transition. Not only does this help to position them as future green economy companies, it creates further opportunities for collaboration and partnership with other green economy issuers.

A global hub for green finance

The transition to a sustainable, low-carbon economy is a huge challenge, requiring every company, bank, insurer and investor to adjust their business models. It also represents a \$26tn economic opportunity⁸ and is a significant focus in the economic recovery from the COVID-19 pandemic.

Fundamental to making this transition a success is finance and investment. As a global hub for green finance, London Stock Exchange is constantly innovating to support both issuers and investors in raising capital to execute their strategies.

One such innovation is the Green Economy Mark. It is a unique initiative by London Stock Exchange, the only exchange in the world to have this type of classification for equities.

Even at this early stage, where data regarding trends is still formative, valuable insights can be gained from the composition and performance of the 86 equity issuers accredited with the Mark. It provides a snapshot of the green economy that we can build upon – this is the evolving global green economy being reflected on the world's most international exchange.

We see the transition to a low-carbon economy taking place, as mature businesses invest and adapt to build up their mix of green revenues and younger companies gain investor support for innovative new technologies.

The companies that have received the Mark are in many respects the advance guard of the transition to the low-carbon economy.

In addition to those 86 with the Mark, a further 110 issuers on London's equity markets are reported by FTSE Russell as generating some level of green revenues below the 50% threshold for the Mark. The majority of these are companies in the industrial sector, however, green revenues are being generated across at least ten sectors.

In practice, this is likely to be an under-estimate, given that many issuers are not yet fully reporting green revenues and that these 110 companies are those within the FTSE Russell ESG research universe. Encouraging and incentivising disclosure of green revenues and tracking these issuers on their trajectory towards becoming Green Economy Mark issuers will yield vital insights about the evolving dynamics and development of the green economy.

As companies green their businesses, more will generate some levels of green revenues; many may access London Stock Exchange equity and fixed income markets to facilitate and support this process of strategic transition. Not only does this help to position them as future green economy companies, it creates further opportunities for collaboration and partnership with other green economy issuers.

London Stock Exchange will continue to innovate and support the transition to a greener, more sustainable and resilient economy.

8. <http://newclimateeconomy.net/content/press-release-bold-climate-action-could-deliver-us26-trillion-2030-finds-global-commission>





To find out more about London Stock Exchange's sustainable finance offering visit www2.lseg.com/sustainablefinance or get in touch with the team at sustainablefinanceenquiries@lseg.com



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