



Foreword:

When might the clouds dissipate?

This past year has been one of the worst periods on record for investors. We assess what could signal a turnaround in 2023.

This time last year, we noted that 2022 could well form a turning point for the global economy and markets. With hindsight, "turning point" was a serious understatement of the dramatic shifts that have convulsed the investment landscape this year.

Many asset classes are in the red, as at the time of writing, with typical equity-bond correlations breaking down. The context: rampant inflation, stoked by geopolitical conflict, which in turn has hastened the retreat by central banks from one of the most benign environments for monetary policy in decades.

With much of the world economy sliding into recession, and higher rates continuing to bear down on relative valuation levels, we believe investors should gird themselves for returns that are subdued at best. We also expect market volatility to remain heightened.

Within this grim context, the most pressing questions are: How bad might things get? And what could signal a turnaround? In this outlook, teams from across LGIM offer answers for a variety of investment capabilities and asset classes.



We suggest that:

- Equities may reach new lows, before recovering later in 2023 as inflation is tamed
- Bond investors can now access income of which they could only recently dream
- Pandemic-era developments should bolster IG and HY bonds in a downturn
- Further growth is likely in clean energy, cyber security and photonics

In addition, we discuss how a focus on liquidity in real estate equity and private credit may have overshadowed some important opportunities.

Peak inflation, peak rates

Clearly, 2022 has been one of the worst years on record for investors. And yet despite the justifiable bearishness with which markets have greeted the numerous shocks suffered, we believe they have in some instances overreacted.

This creates an interesting opportunity set for investors in 2023, even as the clouds over the investment landscape are unlikely to dissipate until there's greater clarity around peak inflation – and peak rates – and the trajectory of the Ukraine-Russia conflict.

continue."

This past year has also demonstrated the importance of energy to the global economy. Energy security and decarbonisation are inextricably linked, in our view, as we argued in our recent publication To COP and beyond.

Next year, the battle against climate change will continue. LGIM's representatives at COP27 speak of the tremendous energy they felt at Sharm El-Sheikh among the other participants, with whom they shared a sense of real urgency. We need to harness that energy to avert the worst climate outcomes and seize the opportunities, before it's too late.



Sonja Laud
Chief Investment Officer

Economics and Asset Allocation:

Bracing for another tough year

We expect much of the world to slip into recession, creating a challenging backdrop for equities.

But there are also grounds for some optimism.

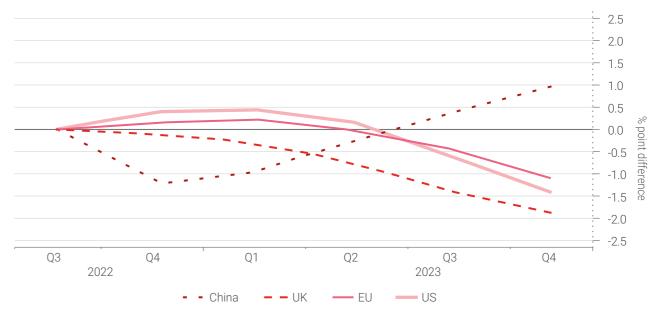
The overheating we worried about in last year's outlook has combined with further negative supply shocks, most notably Russia's invasion of Ukraine, to generate a major inflation overshoot in 2022. The dramatic monetary tightening undertaken in response has brought forward the potential timing of recession – and made a 'soft landing' even less likely in 2023.

In the US, we expect recession to begin in the spring, with output falling through the rest of the year. In Europe and the UK, real incomes are being squeezed by a severe energy price shock. The recession in these regions has already begun, in our view, and is likely to prove deeper and longer-lasting than consensus expects. Furthermore, market pressure has forced the UK government to deliver a tighter fiscal policy than would otherwise have been necessary.

Japan is the potential growth outlier next year with activity likely to be supported by the easing of COVID restrictions and fiscal stimulus.

"Japan is the potential growth outlier next year."

LGIM's GDP forecasts vs consensus by region



Source: LGIM, as at 5 December 2022. Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

Timing the trough

Against this backdrop, we fear that 2023 will be another difficult year for equity markets and harbour particular concerns about the most cyclically exposed sectors. Regionally, Japan is our preferred market, given the desynchronised nature of its recovery. At the sectoral level, we think tech stocks are set to recover, with their earnings likely to prove more resilient in a global downturn. In terms of thematic plays, we believe decarbonisation will remain the most important secular theme.

Moreover, we expect equities to bottom before the recession ends. Late recession and early recovery phases of the cycle are typically the best time to invest. In our view, that will only come when visibility on the economic trough improves, setting up a switch to a much healthier environment for risk assets – possibly towards the back end of the year.

The one positive economic development is that goods price inflation is set to fall rapidly in 2023, aided by cooling demand and improved supply chains. Service sector inflation will unfortunately likely prove much stickier, though.

Some relief for rates

There are considerable lags and uncertainty around exactly when the labour market will turn, but recession and rising unemployment should reduce wage pressures as the year unfolds. Unlike last year, we believe that there are more than enough additional hikes priced in for the US Federal Reserve (Fed) and Bank of England and we also see the prospect for rate cuts towards the end of the year.

We are, therefore, positive on duration going into 2023, looking for nominal and real government bond yields to drift lower after shooting higher in 2022. The repricing of real yields over the last 12 months is one of the most profound changes in the investment landscape. That should offer some respite to assets which have been punished as yields moved rapidly higher.

The fortunes of infrastructure and property assets should be dictated by the fundamentals, rather than discounting. We worry about near-term pressure on credit spreads given the poor economic outlook, but think they now offer adequate compensation for downgrade and default risk over the cycle. That is particularly true in the European and sterling investment grade markets, in our view.

The outlook for EM

China's economy is currently very weak due to its zero-COVID strategy and ongoing stress in the property market. Steps towards easing those restrictions will probably need to progress much further if recovery is to gain traction in 2023.

We are cautious on the outlook for emerging market (EM) equities and commodities, which tend to be dominated by the fortunes of China. Though the Chinese cyclical outlook might improve in 2023, the structural headwinds are increasing. These risks need to be viewed against a background of a deepening cold war between China and the US. Hostility towards the former is a rare area of bipartisan agreement in the US, with the Trump administration's trade wars followed by chip regulation under Joe Biden.

Other parts of EM have got ahead of the Fed in tightening policy early and aggressively, most notably in Latin America. That should offer support to EM currency markets in the year ahead. More broadly, we think that the end of the dollar bull cycle is likely to arrive as the end of the US tightening cycle approaches. European currencies, including sterling, are set to find some much-needed support in 2023 if that is the case.

Our core asset class views

Overview	Equities	
Equities Duration Credit Inflation Real estate	UK	

Government bonds • • • • US dollar lnvestment grade • • • Euro Pound sterling EM USD debt • • • EM FX

= Strategic allocation

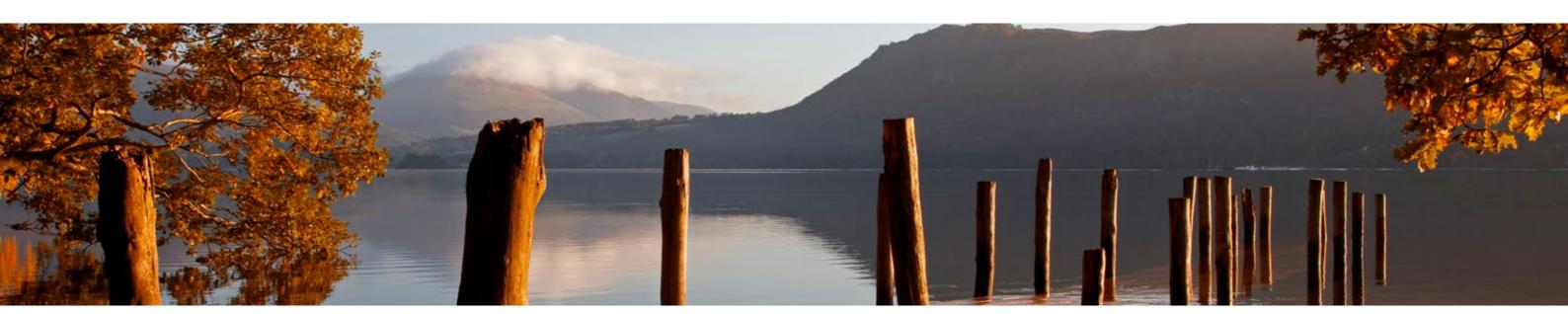
This schematic summarises the combined medium-term and tactical views of LGIM's Asset Allocation team as of 2 December 2022. Asset allocation is subject to change. The midpoint of each row is consistent with a purely strategic allocation to the asset/currency in question. The strength of conviction in our medium-term and tactical views is reflected in the size of the deviation from that mid-point. The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested.



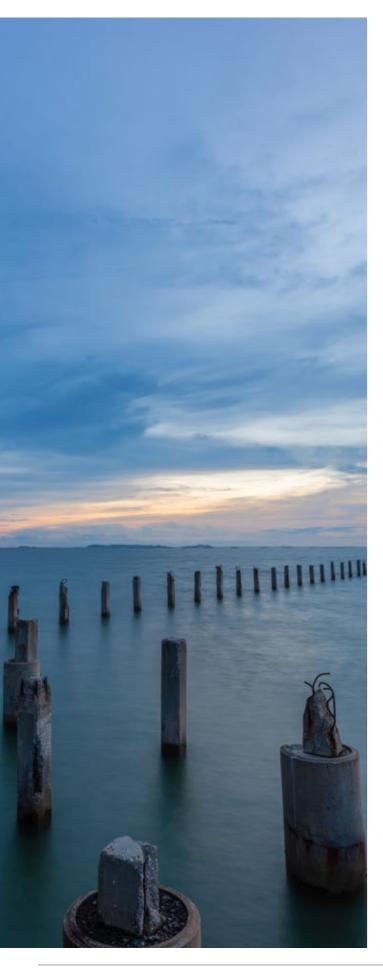
Tim DraysonHead of Economics



Emiel van den Heiligenberg Head of Asset Allocation



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Active Strategies:

Global fixed income – after the storm

Following a stormy year for fixed income, the first few rays of sunshine may be threatening to break through.

After a decade during which fixed income investors were compelled to travel down the risk spectrum in search of returns, there are hopes that this year's reset higher in yields may reverse the trend. Three questions will determine whether this optimism is justified:

1. Will unemployment rise?

Such a move would help curb inflation, but we expect growth data to fall first. In our view, weaker growth and eventually falling unemployment should lead to positive fixed income total returns and lower volatility.

2. How much will inflation fall?

Recent evidence suggests inflation has peaked in the US and elsewhere. But the continued rise in services inflation will likely lead to central banks tightening policy until wage inflation can be tamed. Still, as recent goods disinflation feeds through the data, it suggests the risk of seventies-style runaway inflation has receded, along with the possibility of government yields lurching higher.

Other important considerations here are the behaviour of commodity markets and the state of private-sector balance sheets. More broadly, many commentators have outlined a recent intellectual and political 'regime change' from monetary to fiscal dominance. The coming recession will probably test this theory.

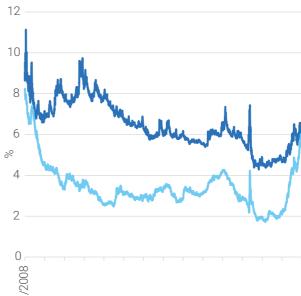
How much scope might government yields have to rally in the event of a recession? In all but the most severe scenarios, we see a high likelihood that the US 10-year remains above 3% next year. It appears a portion of the duration rally typically experienced in a recession has been brought forward as government yield curves inverted much sooner than would normally be expected.

3. Will the recession be shallow?

We believe the consensus that the impending recession will be shallow is likely to be challenged. It could take a while for central bankers to be confident that inflation is under control – inflation and wages tend to lag economic growth after all. All this could weigh on risk assets in 2023, at least initially.

However, central banks are likely to eventually move their focus away from current inflation, and become confident that the economic downturn will get prices under control. When this happens, bond yields should fall and equity investors can breathe a sigh of relief.

Earnings yield versus credit yield



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-S&P500 Earnings Yield NTM -US IG Credit Index Yield

Source: Bloomberg as at 23 November 2022. The value of any investment and any income taken from it is not guaranteed and can go down as well as up, and investors may get back less than the amount originally invested.

Spread outlook

We believe a potentially better option for income appears to be corporate investment grade (IG) credit, despite the outlook for economic growth and company earnings. In euro and sterling IG credit markets, spreads already seem to be compensating investors for recession risk and, therefore, could provide a large cushion to absorb bad news

Meanwhile, US dollar IG spreads appear relatively richer, but downgrade risk looks to be less of a concern after many of the weaker capital structures were previously downgraded to high yield (HY) at the beginning of the COVID-19 crisis (for more, see Madeleine and James's piece).

While it is reasonable to expect credit spreads to widen from today's levels as recession becomes more imminent, we believe the interplay between government debt and corporate bonds should help make IG credit appealing from an income perspective next year. As government bond yields fall, credit spreads will likely widen, but the overall all-in-yield should stay steady, in our view, providing the sort of income of which investors have been starved for more than a decade.



Colin Reedie
Head of Active Strategies



Jason Shoup

Deputy Head of US Fixed Income & Head of Global Credit Strategy at LGIM America

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Credit:

Divining the future for fallen angels

Market developments during the pandemic mean IG and HY bonds may demonstrate real resilience in the impending global economic slowdown.

As economic indicators across the world show signs of slowing, the operating backdrop for companies looks much tougher in 2023. We would ordinarily expect significant increases in both defaults and 'fallen angels' in a recession, but believe credit market fundamentals are unusually well-positioned ahead of this downturn.

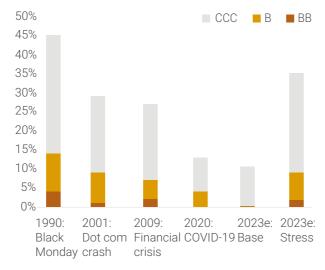
COVID-hardened issuers

This view reflects our proximity to the pandemic in 2020, in which there were a historically high number of fallen angels – bonds that have lost their investment grade (IG) status. The sudden shock to profitability and cash flows caused by worldwide lockdowns led to downgrades of many of the weaker BBB names, meaning that they have already exited IG indices. The companies that remain IG have proven they have business models that can withstand a severe shock.

On average, credit quality has been improving across both IG and high yield (HY) since 2021 as companies have felt the benefits of the more prudent financial policies adopted in 2020, and as profitability fully recovered. We think that a recession in 2023 will likely stymie this recovery, and lead to a small net deterioration in credit quality, but nowhere close to the levels witnessed due to COVID-19.



One-year default rate by rating category



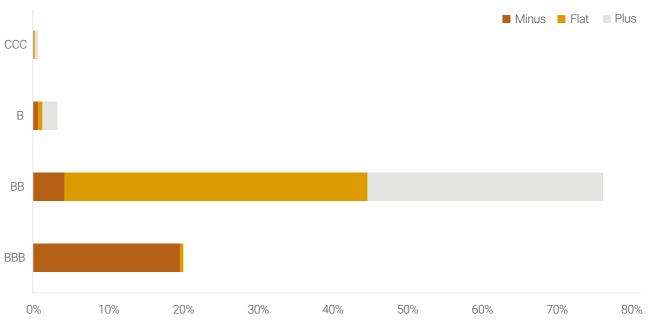
Source: Moody's, LGIM as at November 2022. Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

We have revisited our extensive bottom-up company analysis to model a 'worst case scenario', with peak-to-trough GDP declines similar to those experienced in the global financial crisis (which we see as a 10% probability event). Even here, the magnitude of fallen angels would not exceed 2020 levels, in our view. To put this in perspective, our equivalent low probability 'worst case scenario' of the fallout from COVID (which thankfully did not transpire) pointed to a figure of over a trillion dollars.

Healthier high yield

The migration of fallen angels of 2020 not only improved the quality of the IG market, by leaving only the strongest companies behind, but also that of the HY index that they entered. Of the bonds downgraded to HY in 2020, 20% have already returned to investment grade, while most of the others (76%) remain in the BB category, contributing to continued growth in this category of HY.

The class of 2020: moves since pandemic-era rating cuts



Source: Moody's, LGIM as at November 2022. **Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.**

Defaults have picked up in 2022, courtesy of the crisis in Chinese real estate, and while an economic downturn is likely to exert further pressure on issuers, our expectation is that they should remain low. Our bottom-up analysis points to negligible double-B and single-B defaults under our base case. Even in the worst-case scenario defaults should remain well below the highs of previous crises in our view.



Madeleine King
Head of Research and Engagement



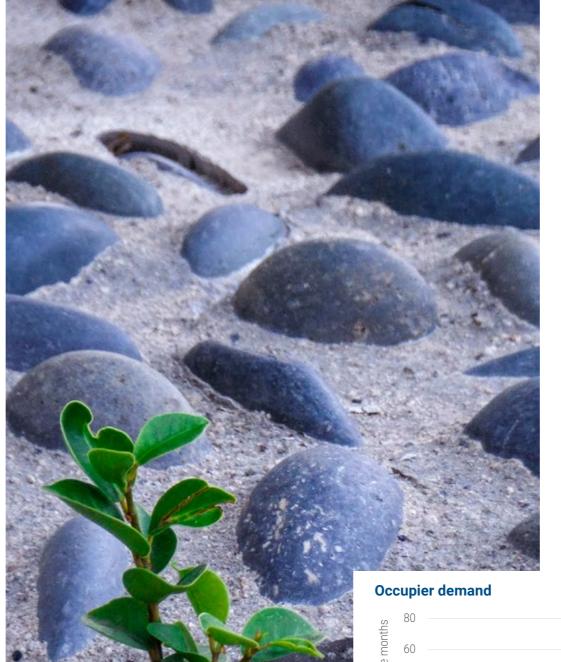
James Odemuyiwa Senior Credit Analyst

Real Assets:

Finding resilience amid challenges

A focus on liquidity in real estate equity and private credit has arguably overshadowed some important investment opportunities.

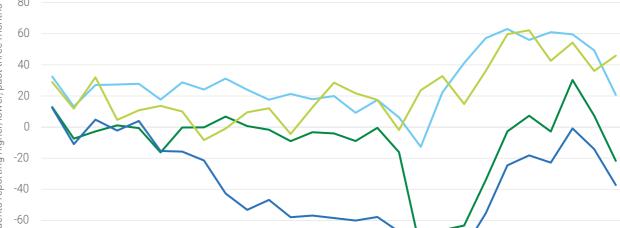
A combination of higher interest rates and weaker demand has impacted the UK real estate sector during 2022, with spreads being squeezed sharply. While obvious comparisons have been made between yields on property and yields on fixed income, linking the two doesn't incorporate cashflow changes – rental demand rises and falls in response to economic conditions.



Residential bucks the trend

Data from the Royal Institute of Chartered Surveyors (RICS) indicate that demand for space, particularly in the retail and office sectors, has begun to weaken. While there is some slowdown in industrial sector demand, we remain positive on the long-term structural demand for industrial space in urban locations.

As can be seen from the chart below, the sector showing the most resilience is residential. Let's not forget, however, that sector allocation is just one aspect of portfolio structure. Local economic factors and the ESG credentials of individual assets are both increasingly influential drivers of investment performance, in our view.



- Offices - Retail - Industrials - Residential

Source: RICS, Macrobond. Commercial survey responses as at September 2022, residential as at October 2022.





Options in private credit

Private credit comprises a variety of credit risk, cashflow and duration profiles. Direct lending has been popular in recent years; loans are typically sub-investment grade and floating rate. In a different part of the risk spectrum sits fixed-rate, investment-grade lending. Institutional investors have often looked to the latter as a complement to public credit for liability matching purposes.

In the early part of the rates cycle, investments in floating-rate direct lending fared well. With the more challenging economic environment, the focus must now turn to credit risk and expected losses. Historically, investment-grade lending has encountered modest default risk through the cycle; while privately negotiated loans come with structural features that enhance control and arguably improve recoveries in the event of a default relative to public credit.



Illiquidity in private markets: the big issue?

A great deal of attention has focused on the robust gains made in private markets over the past 10 years.3 This year, while there has been a sharpened focus on illiquidity in private markets, it is only natural that investors reconsider their allocations.

There are two factors we would like to highlight. Firstly, we believe there is a fundamental need for diversification: both equity and debt in private markets contain sectoral and business profile exposures that are markedly distinct from those of public markets. Secondly, we believe the close connection to the management of underlying assets, whether that's retrofitting real estate to reduce energy consumption, or integrating ESG-related milestones in private credit, gives private asset investors an additional and distinct role in aligning their objectives with ESG outcomes.



Rob Martin

Global Head of Investment Strategy & Research, LGIM Real Assets

- 1. Source: https://ec.europa.eu/info/strategy/ priorities-2019-2024/european-green-deal/repowereuaffordable-secure-and-sustainable-energy-europe_en 2. Source: Bloomberg New Energy Finance, LGIM calculations as at November 2022.
- 3. Source: Bloomberg, LGIM Calculations (60/40 portfolio), Burgiss (Private Capital) to end December 2021.

ETFs:

Three investment themes for 2023

Investments targeting clean energy, cyber security and photonics could provide solutions to some of today's most pressing problems.

The search for tomorrow's investment themes takes us to exciting parts of the market that don't fit within traditional sector classifications, but have potential for long-term growth.

But while scanning the horizon for transformative ideas, we remain cognisant of the here and now.

As millions of people struggle with the cost of heating their homes this winter, the need for affordable and decentralised renewable sources of energy has never been greater.





A crisis - years in the making

Europe's energy crisis was triggered by Russia's invasion of Ukraine, but the fragility of our energy network is a result of years of underinvestment into renewables. The climate crisis, meanwhile, hasn't gone away simply because gas supplies have been squeezed.

Renewables – primarily wind, solar and hydroelectric – hold the key to solving these intertwined problems.

Today, only around a quarter of global electricity supply comes from renewables, while renewables' share of the global energy mix, which includes transport and heating, is only 11%.⁴

The good news is that wind and solar power are among the cheapest sources of electricity in the world today. As such, there remains huge potential for growth driven by attractive economics, rising demand and the immediate need to reduce our global carbon footprint.

A common issue for renewable energy sources is intermittency, but battery technology has the potential to overcome this. Grid storage and behind-the-meter storage can improve the efficiency of power networks by mitigating fluctuation of inputs.

The opportunity represented by grid storage applications for battery technologies, however, is dwarfed by that of electric vehicles (EVs). The falling cost of EVs, coupled with public recognition of their advantages, is projected to see annual growth in European EV sales of around 36% between 2019 and 2024.5





The role of hydrogen

Looking further ahead, getting industries such as ammonia producers to switch from grey hydrogen (produced using a carbon-intensive team methane reformation process) to blue hydrogen (essentially grey hydrogen with carbon capture and storage) and green hydrogen (produced using electrolysis, which is much more sustainable) could represent low-hanging fruit.

Green hydrogen could also help the energy transition in hard-to-abate sectors such as cement, steel and glass manufacturing.

Although the overall opportunity across clean power, battery technology and green hydrogen is huge and headway was made at COP27 to fund building clean energy capacity in less developed counties, potential headwinds could include delayed policy support and higher funding costs, which could particularly hit projects that are typically capex heavy.

4. Source: https://ourworldindata.org/renewable-energy#how-much-of-our-electricity-comes-from-renewables 5. Source: https://www.marketdataforecast.com/market-reports/europe-electric-vehicle-market

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Global hardware security modules (HSM) market \$2,862.57 Million CAGR 13.26% 2028 Source: https://www.verifiedmarketresearch.com/product/ global-hardware-security-modules-market-size-and-forecastto-2025/. Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

The digital economy

Cyber security is another theme with several potential growth drivers in 2023. Rapid digitalisation during the pandemic increased the threat posed by cybercrime, and demand for defences.

Although some important segments of the industry are mature, new technologies are also emerging that could shape the next decade.

\$1,025.86

2020

Million

One example is hardware security modules (HSMs), which provide extra security for sensitive data. HSMs are a requirement for Windows 11, which is expected to become the standard operating system for new PCs in the coming two to three years.

The future is bright

Photonics – recognised by the European Commission as a key enabling technology of the 21st century – is another established theme with great potential, in our

Technology for manipulating, transmitting and detecting light is already widely used in the automotive industry, agriculture and robotics, and it could also play a key role in emerging fields such as quantum computing.



Aanand Venkatramanan Head of ETFs, EMEA

Contact us

For further information about LGIM, please visit lgim.com or contact your usual LGIM representative











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