

PLASTICS ESG CLUB



There is more than just salt in our oceans these days. Plastics and other pollutants are pouring into our rivers and seas at an alarming rate, threatening our safety. This month's ESG Club looks at how institutional investors can protect an important part of our ecosystem.

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Members



BlackRock



INSURERS QUIT NET-ZERO BODY

A mass walkout leaves the group's decarbonisation ambitions in tatters, finds *Andrew Holt*.

Support from insurers for the carbon-combatting Net Zero Insurance Alliance (NZIA) has collapsed like a house of cards. Lloyd's, the leading insurance market, has become the latest big name to withdraw from the group – a major blow to the United Nations-backed initiative, which could have far-reaching implications in the fight against climate change.

Lloyd's joins a heavyweight list of insurers, which includes AXA, Allianz, QBE, Swiss Re, Munich Re, Zurich, Hannover Re and Sompco, who have all withdrawn their support from NZIA. The ongoing machinations in US politics are behind the evaporating support for the body. The decision comes after Republicans in the United States accused NZIA of violating US anti-trust laws by effectively working together to reduce carbon emissions.

Via this law, the accusation is that the body corroborated in the intent of price-fixing and distorted insurance provision.

Stand against ESG

Some observers have noted that behind that accusation there is a wider Republican drive against financial institutions using environmental, social and governance-related (ESG) factors in their decision making – which, as any reader of *portfolio institutional* knows, is highly prevalent.

And a key point is all these major insurance groups have substantial business in the US. So faced with a threat to their operations or support for NZIA, it could be said there was always going to be only one winner.

It does mean the momentum built up by NZIA, after it was created at the Glasgow Financial Alliance for Net Zero at COP26 in 2021, could be lost.

Miqdaad Versi, a partner at consultancy Oxbow Partners, said the move by the insurers “does dampen the momentum surrounding NZIA and decreases the likelihood of collaborative efforts in the future.”

And he added: “The big achievement of NZIA was the Target Setting Protocol v1.0 which laid out the approach for calculating targets for insurance-associated emissions to align to net-zero.”

Darius Nassiry, vice president of climate, resilience and sustainability at sustainable energy group WSP, described the situation as worrying. “Climate change threatens to make the entire world uninsurable, so collective action is vital,” he said.

Reducing climate risk

He added that a worrying development is that the work done by insurers to address climate investment risk could be lost. “Insurers leaving NZIA should keep their targets, because reducing climate risk in investments and insured assets is rational and necessary.”

Gabrielle Siry, head of sustainable finance and European co-operation at the French Prudential Supervision and Resolution Authority, has estimated that climate change could mean costs doubling for insurance companies by 2050. “It means that insurers will need sufficient capital to face these risks and these damages,” she said.

Dr Caroline Metz, senior EU policy officer at ShareAction, said there are clear lessons from the situation. “The decline of NZIA makes one thing crystal clear: voluntary initiatives won't deliver net zero. We need robust regulation.”

MEP Henrike Hahn, shadow rapporteur on the Solvency II review for the Greens and European Free Alliance group, has already called for mandatory transition plans for insurers.

Capital charge

ShareAction is calling for the adoption of a one-for-one rule, whereby investments in companies involved in new fossil fuel projects would be subject to a 100% capital charge.

“Such a precautionary approach to how we regulate insurers' involvement in [new] fossil fuel projects would not only protect

the insurance sector itself against unforeseen risks and losses but would also positively contribute to the green transition,” Metz said. “That higher capital requirements for fossil fuel investments will also make it more costly for insurers to insure and invest in these types of projects.”

The whole situation as it stands raises big questions about insurers, and with it other leading investors, committing to net zero objectives going forward.

Vipul Shetty, a specialist focused on the energy transition, said there have been flaws in NZIA's approach in regard to geographies.

“If NZIA is serious about transition they should realise that a global policy is never globally enforceable and that local environments in Europe versus Asia are very different from each other. Asia needs to transition in a different manner than their western counterparts, and for that, separate policies need to be created.”

Remaining members of NZIA include Aviva, Generali from Italy and the French-based Credit Agricole Assurances. At one time, 32 insurers were members of NZIA.



INTERVIEW – PROFESSOR RICCARDO REBONATO

“A significant risk re-pricing may be overdue.”

The scientific director of the EDHEC-Risk Climate Impact Institute and a professor of finance, tells *Andrew Holt* about why he is encouraged by efforts to address climate change, but says institutional investors should move from ‘canned scenarios’ and raises issues about carbon removal.

How well do you think institutional investors are approaching climate change and the risks associated with it?

There are many encouraging efforts to come to terms with the financial implications of climate change. Understanding what the climate future might look like is an essential first step in being prepared. Several international organisations have provided climate scenarios, which are invaluable.

However, so far these scenarios have been devoid of any assessment of their likelihood – relative or absolute – and this makes them difficult to use. Faced with a garden-variety market scenario, financial planners routinely build probabilities ‘in their own heads’ and qualitatively assess whether the scenario is worth losing sleep over or not.

But this is only possible because of a century-long experience of market crashes, credit crises, asset bubbles, interest rate hikes and the like. This ‘institutional memory’ is absent in the case of climate scenarios because we have not yet encountered this situation in the history of Western civilization, let alone of financial markets.

Any portfolio manager worth her salt can express an informed opinion about whether a market scenario such as ‘yields move up by 100 basis points in a month’ is reasonable or not – and she does not need to run a formal model to arrive at her conclusion.

So how can investors assess whether breaching the 1.5-degrees target in 20 years’ time is likely or not?

This is why investors and financial planners need science-based models to assess what they should worry about and what belongs to the category of ‘meteorite risk’. This lack of any probability assessment is a big gap in what is being provided to investors.

One should also keep in mind that standardised scenarios are great for comparability and reporting but can easily generate tunnel vision and encourage group think. The ‘wisdom of crowds’ is good indeed when it comes to estimating averages but fails badly when it tries to assess the tails of distributions.

So, my recommendation to investors is not to think that the ‘canned scenarios’ availa-

ble cover all that can happen. Instead try to embed climate scenarios in the wider macro-financial picture. For instance, if subsidies prove more politically palatable than carbon taxes, and if subsidies – as it happening in the US and in Europe – acquire a progressively protectionist focus, what will the consequences be for trade agreements, globalisation, etc?

Or if the 150 million people living in the already extremely dry and agriculturally ‘marginal’ Sahel area were forced to migrate because of a modest temperature increase, what might the economic and political repercussions be for European countries?

Nobody can know with certainty how severe climate change in itself will be, but the nature of the problem is that it is deeply pervasive and has ramifications in every aspect of the economy.

How do you see the debate surrounding climate change, net zero and investors? Is it going in the right direction or taking the wrong course?

There is no doubt that emission abatement must play a key, and increasingly



important, role in controlling climate change. Investors can play a significant part in this respect.

However, every scientist and the Intergovernmental Panel on Climate Change agree that all paths to a manageable level of warming by the end of the century require substantial carbon removal. Unfortunately, we have very few practical carbon removal options, such as afforestation and reforestation, that can be deployed in scale now. Even the ones that we do have are no panacea, for instance, because of competition for land from afforestation.

Other removal technologies are expensive and require a lot of energy that must be provided by renewables unless we want to use up our carbon budget.

Unfortunately, talking about non-abatement routes to climate control is unpopular because of the perceived risk of moral hazard. However, if we fail to devote resources to direct carbon removal, the temperature outcome by the end of the century will be well outside the Paris targets.

So, we must indeed think of reaching net-zero soon – the sooner, the better – but we

must start to think seriously about net-negative as well. All ‘experts’ agree on this point, but the importance of substantial carbon removal has rarely been on the radar screen of politicians, and, arguably, of investors.

The same investors should also realise that if the transformations of the economy associated with large carbon removal do not take place, then we should brace ourselves for much higher temperature outcomes.

Big transformational changes are afoot whether we act decisively or we don’t. The net-zero target via abatement, useful as it is, can create complacency: it is a necessary first step but not the be-all-and-end-all of climate control.

You have studied the climate risk premium in detail: what it is and why should investors care?

All risk premia depend on whether the security in question pays well or badly when we feel rich or poor. Equities attract a positive risk premium because an equity portfolio pays badly when the whole economy is in the doldrums. Investors do

not like these ‘fair-weather friends’ and, therefore, pay less for them – lower price, higher expected return.

Conversely, US treasuries and bonds attracted a negative risk premium up to the Covid crisis because they were perceived as providing a hedge to equity wobbles: the ‘Greenspan put’ – that is, to act as insurance by performing well when the rest of the portfolio was doing poorly. So, the same expected cashflows can be valued differently if they materialise in good or bad states of the economy.

Investors should care a lot about this because the risk premium can be a substantial part of the expected return from an asset. Indeed, part of the current high treasury yields in the US and the UK are due not just to inflation expectations but also to the fact that the negative risk premium has evaporated. This has happened because investors are no longer willing to pay an ‘insurance premium’ because the insurance policy doesn’t seem to work anymore.

When it comes to hedging climate risk, when is it possible and when should investors do it?

If an investor has identified a robust hedging instrument, and wants to be insulated with respect to that risk, the hedge should be put in place as soon as the risk is identified. In some cases, deploying the insurance strategy continuously is too expensive: as in the case of out-of-the-money equity puts.

However, it is better to buy more out-of-the-money protection than to try to time the entry and exit points for the hedging strategy. Having said this, recognising that a portfolio is exposed to a risk factor, such as climate, doesn’t automatically mean that the risk should be hedged away – it all depends on how handsomely the risk is rewarded and on the ‘staying power,’ such as internal or limit constraints, of the institution.

If an institution decides that it wants to ‘ride the risk’ – and extract the risk

premium – then it should make sure that its risk-budget, for example, value at risk utilisation in ‘normal times’, is well below the limit. If not, the institution will see itself forced to liquidate the risky positions at the first sign of turmoil.

Therefore, are green assets hedging against risk or adding to it?

We have few empirical answers for this ‘trillion-dollar question’ and the empirical studies conducted so far have given contradictory answers. This is why state-of-the-art theoretical models can give investors some help.

Currently, a robust finding of these models is that the largest climate damages materialise if the global economy is firing on all cylinders: because of the link from economic expansion to emissions to concentrations to temperature increase to damages.

So, an asset that paid well in states of high climate damages, let’s call it ‘green’, would pay well when equities pay well and would, therefore, attract a positive risk premium.

One important observation: investors must distinguish between risk premia ex-ante and ex-post. If a security is perceived to perform badly in poor states of the world, its lower price already reflects this information, and the investor, therefore, enjoys the positive risk premium today.

However, if investors realise tomorrow that the same security pays badly when everybody feels poor, then the downward price adjustment will only occur tomorrow, and today’s holders will post a loss. There are reasons to believe that current valuations reflect climate risk partially at best: investors beware.

Can you explain the structure of the climate risk premium? Are long or short-dated assets more strongly affected?

As far as physical risk is concerned, the assets that could attract the highest risk premium – positive or negative – are long-



The sweet spot for physical climate risk premia is long, but not extremely long, dated assets.

dated, as it is long-dated cashflows that are more likely to be affected by physical climate risk.

Somewhat surprisingly, extremely long-dated assets – there are some treasury bonds with 100-year maturity – are not affected as much because, sooner or later, we expect the climate problem to be brought under control. So, the sweet spot for physical climate risk premia is long, but not extremely long, dated assets.

So how does the climate risk premium depend on what you describe as future abatement policies?

The climate risk premium depends crucially on future abatement policies. If we abate little, then climate damages are going to be much larger, and the climate sensitivity of cashflows – the ‘climate beta’ – to climate outcomes will also be correspondingly larger.

An estimate of the magnitude of the climate risk premium is, therefore, a joint estimate of whether the largest climate damages will materialise when the economy is strong or weak and of the aggressiveness of our climate policies. What I would add here is that the likelihood of abating too little is much, much higher than the likelihood of abating too

much – so the risk premium has a similarly skewed distribution.

How robust then are the results to climate uncertainties and model limitations?

There is huge model uncertainty, and all projections should be associated with large error bars, which are too frequently forgotten. Having said this, we do have valuable information, and the defeatist view that the problem is so complex that models are of no use is not constructive.

The key trick is to use all the information we have while keeping in mind what we do not know. We should remember that knowing what we do not know is useful in itself.

Having said this, one of the most robust findings of climate/economy models is that we can expect the largest climate damages in strong states of the global economy, especially if robust growth occurs in yet-to-develop countries.

All models concur that the joint effects of demographic and economic growth of poor countries will have a profound effect on climate outcomes. What the models cannot tell us is whether this growth – if it happens – will be fuelled by renewables or fossil fuels.

You have mentioned that the market may be asleep at the wheel on climate change: what do you mean by that?

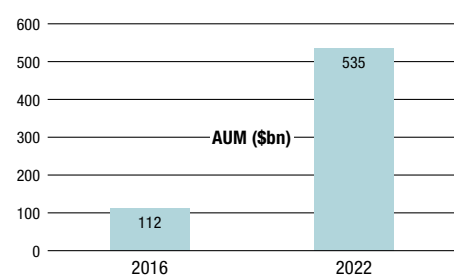
If we do little to tackle climate change and keep on kicking the climate ball into the high grass, temperature increases can take us to levels never seen by Homo Sapiens. Just 3-degrees would be uncharted territory. If, instead, we get our act together and act decisively, the whole economy will have to be rewired – profoundly and in a short time.

Either outcome should have a marked effect on valuations, either in the aggregate or at the sectoral level. Yet, the signature left in asset prices by these events is barely detectable. This makes me think that a significant risk re-pricing may be overdue.

INVESTORS' TOP SUSTAINABLE INVESTING CHALLENGES

Investors in Europe, the Middle East and Africa (EMEA) are increasingly turning to index investing to help them incorporate sustainable considerations in their portfolio.¹

EMEA assets in sustainable indexed products (ETFs and index funds) have more than quadrupled since 2016



For illustrative purposes only. Source: BlackRock, GBI, as of January 2023

Here are the top challenges for European investors who incorporate sustainability considerations into their portfolios.

1. Evolving your portfolio

Tailoring a portfolio to improve specific sustainability characteristics can be time consuming, and the implications of incorporating both the financial performance and desired sustainability profile for the portfolio may be unclear.

Our approach: iShares offers transparency for investors across all our sustainable ETFs. Investors can:

- **Evaluate** a fund based on various sustainability as well as financial characteristics on iShares ETF product pages.
- **Build** a portfolio using iShares' range of sustainable ETFs, with the opportunity to replicate a non-sustainable benchmark or fund.

Risk: The environmental, social and governance (“ESG”) considerations discussed herein may affect an investment team’s decision to invest in certain companies or industries from time to time. Results may differ from portfolios that do not apply similar ESG considerations to their investment process.

2. Making sense of the data

Investors must be able to access and interpret ESG data so they can assess the measurable sustainability characteristics of their investments.

Our approach: At iShares, we believe standardisation of ESG data across the ETF industry will bring consistency and transparency to all investors.

- Our global in-house risk management platform encompasses over 10,000+ ESG metrics from a range of third-party data providers, so that investors can access aggregated ESG data for each of our iShares sustainable fund ranges, and compare our ETFs to make informed and transparent decision-making.²

Risk warning: While proprietary technology platforms may help manage risk, risk cannot be eliminated.

3. Choosing the right product

To help meet investor demand, sustainable funds have been launched in Europe in the past year with various methodologies.³ With so many sustainable products to choose from, investors need clarity to navigate the options.

Our approach: To help investors choose an ETF that aligns with their investment and sustainable goals, our iShares sustainable ETFs are grouped according to four

Screened	Funds that constrain investments by avoiding issuers or business activities with certain environmental, social and / or governance characteristics.
Uplift	Funds that commit to investments with improved environmental, social and / or governance characteristics versus a stated universe or benchmark.
Thematic	Funds that target investments in issuers whose business models may not only benefit from but also may drive long-term sustainability outcomes.
Impact	Funds that commit to generate positive, measurable and additional sustainability outcomes.

As at December 2022.

approaches in BlackRock’s Sustainable Investing Platform:⁴

Spotlight: fostering innovation in sustainable fixed income indices
iShares work closely with index providers to offer ETFs that follow rules-based methodologies providing consistency across asset classes, while focusing on innovation.

One way iShares continues to innovate ETF methodologies is by introducing our first Paris-Aligned Benchmark (PAB) corporate bond strategy. The PAB requirements set by the EU help investors who seek to align with a decarbonisation pathway compatible with the objectives of the Paris Agreement.

This iShares PAB methodology is designed to align to the requirements of a Paris-Aligned Benchmark index, while remaining as close as possible to the corresponding non-sustainable index performance. This means that the risk profile can closely resemble that of traditional corporate bonds.

Sources: 1. ETF data from BlackRock, GBI, as of 31 Jan 2023, 2. BlackRock, as at 30 June 2021, EMEA Client Sustainability Survey, 3. Sustainable UCIS ETFs represented 58% of total flows in 2022 – BlackRock, as at 31 December 2022, 4. BlackRock, as at 31 Dec 2022

To learn more about investing in sustainable ETFs, search ‘iShares sustainable’.

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ESG: A SEA OF TROUBLES

Lakes and rivers across Britain are turning brown. Raw sewage is being discharged into our freshwater supply at an alarming rate. Indeed, in 2022 there were more than 389,000 incidents of untreated waste being flushed into the UK's waterways, say Surfers Against Sewage, a group campaigning for cleaner rivers, lakes and oceans.

The issue is that the UK's water infrastructure, which was largely built during the Victorian era, is unable to cope with the impact of warmer temperatures.

Hot weather followed by excessive rainfall makes it difficult for the ground to absorb water and it ends up overwhelming the drainage system. To stop water backing up in people's toilets



We don't just drink, bathe and swim in water, it is also a vital part of the Earth's life support system. *Mark Dunne* looks at how institutional investors can remove pollution from our oceans, rivers and lakes to build a sustainable future.

and sinks, water companies discharge the excess into rivers, lakes and seas through overflow pipes. Sounds a reasonable plan as no one wants their home or business to be flooded. Yet the issue is that along with the water coming out of those pipes is untreated waste.

This is not the only pollutant impacting the quality of our

freshwater. Rainwater washes animal waste – which fuels the growth toxin-producing algae that draws oxygen away from animals and plants – and agricultural chemicals stemming from excessive use of fertiliser and pesticides from fields into rivers, while oil “runs off” roads into our freshwater supply.

This has left just 14% of rivers in England rated as being in a

good ecological condition. The situation is so bad that there are fears Thames Water, which supplies a quarter of Britain's population, is on the verge of collapse.

The sewage scandal has put water issues on the front pages, which not only raises awareness, but could force companies to act. "You can have a conversation with a person on the street and people understand it," says Alexander Burr, ESG policy lead at Legal & General Investment Management (LGIM). "It is unfortunate that it has had to go this far. However, with the increased attention from stakeholders across society, we believe action must be taken."

It is not just the inconvenience of swimming through raw sewage that is the issue. Water may cover 70% of our planet but only 3% of it is drinkable. Supply is finite and with the population growing, so will the demand for water to drink, bathe in and to grow more food. Pollution, therefore, means poorer water quality, shortages and less nutrition.

Ocean drive

Yet this does not mean the pollution in our oceans is not as big an issue because we don't drink it. The situation here could be worse as it threatens our existence in other ways.

The oceans cover around 70% of our planet and we would struggle to survive without them. Not only do they generate half of the oxygen we breathe, but they also clean our air, feed us and provide millions of people with a livelihood.

The oceans influence our weather by storing solar radiation and distributing heat and moisture around the world. They are also a carbon sink, drawing the harmful gas out of our atmosphere, making it a natural ally in the fight against climate change.

This shows that land management, water and climate change are interconnected, Burr says.

Indeed, burning fossil fuels does not only impact our atmosphere, but our oceans too. The seas absorb around a quarter of man-made carbon emissions, which makes it more acidic. This alters the chemicals in the water, which many plants and animals rely on. For example, mussels, clams and coral need calcium carbonate for their growth, the level of which falls as water becomes more acidic. Rising acidity also makes it harder for some fish to sense danger or hunt prey and bleaches coral reefs. "Water is one of those issues where the risks are extremely diverse, cutting right across areas such as climate change, nature, health and human rights," Burr says.

Plastic not so fantastic

Then there is plastic. It is not biodegradable and is, therefore, here to stay. Plastic entangles marine life and is eaten by fish and seabirds after entering the sea directly, through sewers or is washed off roads and into rivers and lakes during storms.

Indeed, 8 million pieces of plastic make their way into the

ocean every day, killing 100,000 marine mammals and turtles and 1 million sea birds each year, according to British government figures from 2018.

One in every three fish eaten by a human contains plastic, says Surfers Against Sewage. Indeed, plastics, albeit microparticles, have been found in people's stomachs.

Another issue is that pollution in our rivers and seas is creating drug-resistant germs. Along with the food chain and drinking water, rivers and seas could be a breeding ground for anti-microbial resistance.

This could increase instance of people becoming seriously ill and even dying from a cut on the finger or a graze on the knee as drugs fail to kill any bacterial infection they cause. You also need antibiotics for operations and to help mothers give birth.

301 billion reasons to keep it clean

"Water quality and quantity is not currently as central in investment and corporate decision-making as it should be. This needs to change," Burr says.

In 2021, CDP estimated that \$301bn (£237.5bn) of value is at risk if corporates do not improve and innovate around their use of water.

Whilst water has implications for corporates, there are also macro-economic impacts to consider. For example, the World Bank has highlighted that in some regions, water insecurity could cut economic growth by as much as 6%.

"Lack of action may be due to water risks occurring further down supply chains, across markets, making it an indirect and harder to evaluate issue. The value and impact of water is often not reflected in its price, so the negative externalities created in the water system go unallocated and unaccounted for," Burr says.

He adds that for water to be considered when pension schemes and insurers make investment decisions, it must be pointed

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Alexander Burr, Legal & General Investment Management





Water is one of those issues where the risks are extremely diverse, cutting right across areas such as climate change, nature, health and human rights.

Alexander Burr, Legal & General Investment Management

out why it could be financially material, and what impact it has for them over the long term.

But one of the issues is that water risk cannot be tackled at the corporate level. “Companies around the world may be limited in the changes they can make due to many countries’ water systems being nationalised or heavily regulated,” Burr says.

“We have to tackle this at the policy level as well,” he adds. “While one water company changing its own practices is, of course, a positive step, you also need policy-level change to tackle the national and global problems that we are seeing.”

LGIM has been working to address numerous issues in this area. It worked in a collaborative engagement led by First Sentier Investors to reduce microfiber and microplastic pollution in the water system.

The engagement focused on asking washing machine makers to include filters in their products which can remove those microfibers and microplastics from our water system. “This has been quite a successful engagement,” Burr says. “It demonstrates that change on our water system is doable.”

LGIM is focused on improving water quality and quantity. One aspect is utilising developing disclosure frameworks. “Greater transparency across the entire supply chain will highlight areas for corporates who could address their water-related dependencies, impacts, risks and potential opportunities,” Burr says.

Time for an upgrade

One criticism of water companies is that they have been paying high dividends while pumping untreated waste into our rivers, lakes and seas. Indeed, they collectively returned £1.4bn to shareholders in the year to the end of March 2022. This may not look good to consumers whose health is being put at risk. But

water companies could argue that they have a relatively fixed customer base, so outlooks rarely point to growth. Dividends are, therefore, needed to attract the investment needed to upgrade their aging infrastructure.

Chief executives taking home huge bonuses while their companies are being criticised by consumers and the regulator is a different issue. Indeed, Thames Water came under criticism for offering its now ex-boss a bonus despite leakage from the company’s pipes being at a five-year high and the company struggling to manage its £14bn debt.

Water companies need investment and lots of it to fix their creaking infrastructure. Ofwat, which regulates the water industry, has proposed that £1.6bn of work upgrading the water system should be brought forward from its intended 2025 to 2030 schedule.

More than £1bn of this will be invested in reducing the average storm overflows by 10,000 a year. Nowhere near the more than 300,000 spills recorded last year.

Ofwat says that only 60% of the £2.2bn water companies could have invested in improving the infrastructure has been used for such a purpose.

Indeed, the largest 10 water companies spending in their wastewater infrastructure has fallen to an average of £2.7bn a year since 2020 from £3bn in the previous decade, Ofwat says. Water companies in England and Wales only upgrade 0.2% of their assets each year, which is behind the 0.6% average in Europe, says Water UK, a lobby group. Only Ireland and Hungary achieve less.

An example of the size of the problem can be found in Oxfordshire. The cost of improving a treatment plant in Witney to stop sewage being pumped into the Thames has almost doubled to £17m from £8.8m. Energy and labour have been cited as why costs are spiralling higher.

But solving these problems is not just down to utilities. Steps have to be taken to reduce the agricultural waste that falls into our water system and removing the oil and plastics from our roads.

“There is, without a doubt, a need for greater capital investment and we are certainly seeing that coming this year,” Burr says. “Don’t get me wrong, that’s great, but the historic lack of investment has meant that more is needed to improve pollution but also address the scarcity issues.

“This needs to be a long-term investment maintained over a number of years to improve the situation, which has been caused by an historic lack of investment,” he adds.

It appears that whether we are discussing cleaning up our sources of freshwater, or removing plastic and oil from our oceans, there is no quick fix to these problems. It will take a great effort from investors to create the changes needed to systems and corporate behaviour. The consequences of failure could be catastrophic.



Michael Rae is a climate solutions fund manager at M&G Investments.

Few industries receive an independent report card as rigorous as that of plastic packaging. One of the most prominent reports on the state of plastic recycling, published in November 2022, makes for grim reading. The Global Commitment Report, released by the Ellen MacArthur Foundation – which promotes a transition to a circular economy among businesses and policymakers – covered progress towards long-term industry targets of reducing plastic use and boosting sustainability.

Under the 2025 targets, committed to by six of the world's top 10 fast-moving consumer goods (FMCG) companies, virgin plastic used in packaging must decrease by 5% per annum by 2025. Yet this has been roughly flat in aggregate since 2018¹.

“ Whilst the mechanical recycling value chain has grown impressively to deal with specific waste streams, we now need innovative pyrolysis solutions to deal with the rest.

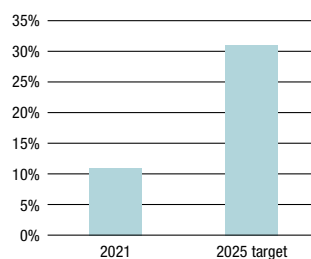
Some headway is being made on raising the recycled content used in packaging. But with the top FMCG companies using an average of 11% in their plastic packaging, they must roughly double their rate of progress, on average, to meet their mid-decade commitments, which range from 25% to 50%.

The wider statistics which illustrate our growing dependence on plastics are eye-

WHEN POLICY MEETS ACTION: SEISMIC CHANGES IN THE PLASTIC RECYCLING MARKET

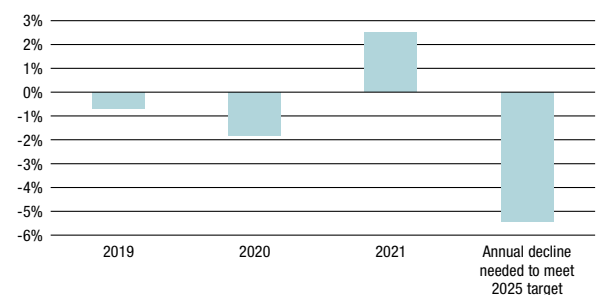
With many companies trailing their targets for reducing new plastic use and increasing the recycled contents of packaging, governments are implementing more ambitious targets for the use of recycled plastic content as the plastic packaging market continues to grow. Pyrolysis, a form of chemical recycling, could offer an innovative solution for dealing with hard-to-process mixed plastic waste.

Recycled plastic – current use and targets



Average current recycled content used in plastic packaging

Changes in virgin plastic packaging production



Annual change in virgin plastic packaging production.

Source: Global Commitment Report, Ellen MacArthur Foundation 2022.

popping. Around 40% of the plastic the world has ever synthesised has been made in the past decade. Nearly half of this plastic is used for consumer packaging, around 95% of which is discarded after a single use, by design, according to data from the Ellen MacArthur Foundation. Despite growing awareness of poorly managed plastic waste, the problem is set to get worse. Even if growth in global plastic consumption slows to half its trend rate, the total market size is still estimated by the International Organisation for Standardisation (ISO) to increase by more than 2.5 times by 2050.

Global policymakers are responding to the challenge

The scale of the challenge is not lost on policymakers the world over. The EU has set ambitious targets for the recycled content in all plastic, and a recycling capture rate of 50% of all plastic waste by 2025. This is more than just vague target-setting. A levy of €800 (£688) per tonne

has been applied to all non-recycled plastic packaging waste since January 2021, although it is up to member countries to decide how to implement it. The choice is whether it lands on petrochemical companies, packaging compounders, FMCG companies or directly on the consumer.

Elsewhere, the US is targeting 30% recycled content in plastic packaging by 2025. China has also made some initial moves, by banning the import of unsorted plastic waste in 2018.

Seismic changes

We believe the combination of the demand ‘pull’ from FMCG companies and regulatory ‘push’ will lead to seismic changes in the petrochemical industry during the coming decade. Today’s plastics value chain is built around multi-billion dollar assets, converting fossil fuels into plastics, in a largely non-circular fashion. But beyond 2030, it is estimated that all of the incremental plastic required



by the world will come from mechanically or chemically recycled sources.

Mechanical recycling is the easy bit. This involves collecting, sorting, cleaning and re-melting certain categories of plastic. It is mainly used for PET (clear drinks bottles) and HDPE (cloudy milk bottles). Because it doesn't change the chemical composition of the plastic, mechanical recycling is a relatively simple process. It also generates fewer GHGs than virgin plastic, by up to 80%.

The disadvantage is it cannot deal with mixed plastic waste, so requires extensive sorting and the plastic must be relatively clean. Furthermore, each re-melting results in the plastic degrading and being downcycled, so it usually results in a different end use, such as plastic bottles becoming carpet fibres.

The opportunities in chemical recycling

The answer to addressing a wider range of plastic feedstock lies in 'chemical' recycling, which itself breaks down into two broad technologies: 'pyrolysis' and 'monomer' recycling. Our analysis leads us to be more excited about the former, since it is a plug-and-play solution which provides circular feedstock to existing, naphtha-based petrochemical complexes.

Pyrolysis breaks mixed plastic waste back into its original hydrocarbon building blocks using heat, in the absence of oxygen. For some plastics, it can produce higher greenhouse gas (GHG) emissions

than using virgin resin, because it requires high temperatures. However, it is still better for the environment, when accounting for the fact that much of the plastic feedstock it uses will either be burned in waste-to-energy facilities or left to slowly decay in landfill. Furthermore, plastic manufacturing accounts for around 8% of oil usage, so any growth in plastic demand which is not satisfied by a circular solution will require a corresponding increase in upstream oil development.

There are several other benefits. Pyrolysis can be applied to the plastics which don't have established mechanical solutions (such as low-density polyethylene, polypropylene and polystyrene), and its great advantage is that it can process labels, inks and food residue, so requires less sorting and cleaning. Pyrolysis-derived naphtha also produces new plastics which are chemically identical to those synthesised from fossil fuels. This means they are free from the degradation common in mechanical recycling, and they are suitable for food-grade applications, which is key to FMCG company interest.

The economics, currently, are also strong. Demand for circular feedstocks far outstrips supply, so circular plastic sells at a premium to virgin, while in some cases the feedstock of part-sorted plastic waste is available at a low, or even potentially negative cost (if the seller is otherwise faced with landfill fees).

Some serious targets are now emerging from the petrochemical industry, which will support growth in the pyrolysis industry this decade. TotalEnergies produces 60,000 tonnes of high-value circular polymers today and targets 1 million tonnes in 2030. Similarly, INEOS aims to incorporate at least 850,000 tonnes of recycled and bio-sourced polymer into products by 2030, from close to zero today. Both companies have announced pyrolysis partnerships with M&G Catalyst investee company, Plastic Energy.

In conclusion

We are all in the habit of putting all plastic containers in the correct bin, and assuming the recycling industry will do the rest. But whilst the mechanical recycling value chain has grown impressively to deal with specific waste streams, we now need innovative pyrolysis solutions to deal with the rest. This is the route to raising the 14% of plastic which is currently recycled towards the 70% to 80% seen in the paper and glass industries, levels which are now explicitly targeted by industry and policymakers.

¹⁾ Ellen MacArthur Foundation, "Global Commitment Report 2022", (ellenmacarthurfoundation.org)



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POLICY CERTAINTY AND INCENTIVES ARE THE BEST WAYS TO PROMOTE PENSION INVESTMENT IN UK GROWTH

At the start of June, the Pensions and Lifetime Savings Association (PLSA) hosted some 800 pension and investment professionals in Edinburgh for our annual investment conference.

Over two-and-a-half days we heard from more than 100 speakers across 42 sessions, covering topics as wide ranging as investing for a less carbon intensive future, liability-driven investment, post-retirement products and driving better value for money.

But the liveliest debate, and the one which had dominated the headlines in the run up to the conference, was about pension funds' role in driving growth in the UK economy.

Today, UK pension funds invest almost £1trn in the UK through a mixture of shares, corporate bonds, government debt and other asset classes. This investment generates the capital businesses need to expand their operations, hire more employees and develop new products and services. It also supports spending on infrastructure, renewable energy and social programmes.

However, during recent months there have been many public calls, from government, stakeholders and the media, for pension funds to play a bigger role in providing additional capital to support growth in the UK economy, especially through increased direct investment in

infrastructure, private markets and venture capital.

Many commentators have suggested that the best way of achieving additional investment in UK growth assets is by undertaking radical and rapid consolidation of the pensions sector. We do not disagree that scale can have many advantages but, in our assessment, there are many quicker and simpler ways of achieving these objectives.

Initiatives to support pension fund investment in UK growth

In a new paper, *Pensions and growth*, the PLSA has identified a dozen opportunities to encourage all types of pension fund to invest further in UK growth. Importantly, these measures do not inhibit pension schemes' ability to direct the investment of their members private savings, and do not dilute their fiduciary duty to scheme members.

Chief among them is establishing a rich and continuous pipeline of enterprises needing investment for providers to bring to market and investors to choose from. The asset management industry should be encouraged to focus on sourcing UK opportunities and developing new investment funds and products (such as long-term asset funds) which are appropriate to pension fund needs. The British Business Bank could also be given an extended scope to support companies that need scale up capital, and to create or partner with funds that can bundle up the assets in a form that would be suitable for pension funds.

Initiatives like the Long-term Investment for Technology and Science (LIFTS), which alter the risk-return component of an investment, are appealing to pension funds provided the financial support from government is of a long-term nature. Enhancing the tax treatment of domestic investments, as they do in France and Australia, also merits exploration.

We also want to see the government press ahead with its welcome plan to increase

auto-enrolment contributions by removing the lower earnings limit and by starting automatic enrolment at age 18 instead of 22. Only by increasing the flow of new assets into defined contribution pensions can we hope to provide more capital, and better retirement incomes, in the future. The government should also consider further increases in contribution levels from 8% to 12% during the next decade.

Arguably the most important thing the PLSA is asking of the government is policy certainty. Setting out a clear plan for the future of the UK economy, for example on the green transition, will help draw pension fund investment and allow the UK to compete with non-domestic assets.

Pension funds play an essential role in supporting the UK economy. The UK has one of the most sophisticated and mature pensions systems in the world – it is a great British success story, that provides security to tens of millions of savers.

How pension funds can play a bigger role in providing capital to support growth in the UK economy is an important question, and in our discussions with schemes there is a clear appetite to invest in the UK – where it is in the interests of savers.

Our proposals build on current government initiatives and address the needs of the pensions landscape as it is now. We risk unintended consequences by trying to radically reshape the market or water down the fiduciary duty that is fundamental to our system.

You can read the '*Pensions and growth*' paper at www.plsa.co.uk.

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