# Sustainable Investment Report

## Second quarter 2019

Marketing material

Schroders

# Contents

# Have we hit a tipping point when it comes to public concern over climate change? Students are striking, extinction rebellions are shutting down our cities, Greta Thunberg is being granted audiences with the most senior politicians and the Greens are making unprecedented inroads at the European Parliament.

**Jessica Ground**
Global Head of Stewardship, Schroders

We have long viewed public pressure as an important piece of solving the climate puzzle. Our Climate Progress Dashboard tracks the level of public concern about climate change by using Gallup's annual survey on the attitudes of major countries to climate change. We assume that if 90% of respondents are concerned about climate change, the rise in global temperatures will be limited to 2°C. If only 10% are concerned, we will see a 6°C rise. The last dashboard forecast a temperature rise of 3.3°C, flat from when the dashboard first launched in 2017. It will be interesting to see if this important indicator starts to shift. If it does, policy programmes like the much discussed Green New Deal in the US may start to change the investment landscape. We unpack this, what it is, and how investors should think about it.

Well over a decade ago we identified climate change as a major headwind that all investors would have to navigate over the long term. The complexity of the challenge and the multi dimensional scope means that the historic tools investors have relied on are of little use; but the benefits for those who understood the implications would be substantial. This quarterly update provides insight into how the story is unfolding so far. We discuss how industries ranging from fashion, to aviation, to waste, will be transformed, creating new winners and losers.

We believe that engagement and improved corporate reporting on ESG issues, including climate change, is another important piece of the puzzle.

However, we are aware that we are asking more of our investments than ever before, and run the risk of overwhelming companies with an endless list of asks. We take stock of the current state of engagement, and set out some important markers for the future. Meanwhile, in Thinking Fast and Slow on Corporate Governance, we attempt to strip governance back to the essentials and encourage boards to think how they can effectively focus on minority protection, business and strategic oversight and demonstrate how companies that do this generate alpha.

Finally, given the long term structural nature of climate change, it is important that investors don't just consider the impacts on a company or sector level, although as we have demonstrated with tools like Carbon Value at Risk, these can be substantial. In the second of our papers of Multi-Asset Investing and ESG integration we stress the importance of asset owners considering climate change impacts when it comes to their strategic asset location decisions, as well as taking a total portfolio approach to sustainability. We hope that this report goes some way to demonstrate how we are seeking to take a similar total firm approach.

Many of these pieces are summaries of longer pieces of work. Please do go to our sustainability website if you would like to find out more.

INsight

# "Flygskam": The very real impact of climate change on Swedish airlines

## Swedish airlines are just the latest industry to feel the pinch from carbon conscious consumers, through "flygskam" (flight shame).

On 20 August 2018, an unknown Swedish teenager called Greta Thunberg stood in solitary protest outside the Swedish parliament. Frustrated at the same unacceptably sluggish action on climate change we highlight in our Climate Progress Dashboard, Thunberg nonetheless cut a lonely figure. A self-proclaimed introvert, it seems unlikely that Thunberg would have envisaged that six months later, around 1.6 million students would protest her cause around the world.

The “Fridays-for-Future” movement initiated by Thunberg resulted in over 2,000 protests in 125 countries in a single day, demonstrating the increasing demand for solutions among younger people. The recent “Extinction Rebellion” protests in several European cities included protesters supergluing themselves to trains, trucks, and buildings. The 10-day protest was another more forceful, large-scale call for political action.

As climate change investors, we believe the theme will disrupt real businesses and every day life faster than most investors appreciate. The costs of taking action on climate change have fallen faster than many expected and the benefits of addressing climate risks have become clearer. This has prompted more and more people to forego self-interest and act at the personal level for real change. No longer a “worry for tomorrow”, climate change is already affecting consumer habits, influencing company profitability and changing corporate behaviour.

## The language of change: "flygskam" and "tagskryt"

Thunberg's European tour to carry her messages on climate change took place in London, Rome and Strasbourg. When travelling, the activist shunned plane travel completely in favour of trains. By choosing the train, she saved about 400kg of $CO_2$, or a tenth of the average Swede's annual carbon emissions.

Thunberg's flight-free tour comes a month after the WWF released a survey which showed that almost a quarter of Swedes have opted out of air travel over the past year to reduce their climate impact. The strength of the flygskam (flight shame) movement on travel patterns shouldn't be underestimated. The trend has also seen the rise of another buzzword to express pride in avoiding air travel, tagskryt, or "train-bragging".

Indeed, Sweden's airline and airport operators have seen passenger numbers decline whilst rail operators have seen their numbers boosted.

## The companies facing the sternest climate change threat

Heartened by signs of increased awareness about climate change, we are of course also keenly interested in how low-carbon lifestyle changes affect different corporate sectors.

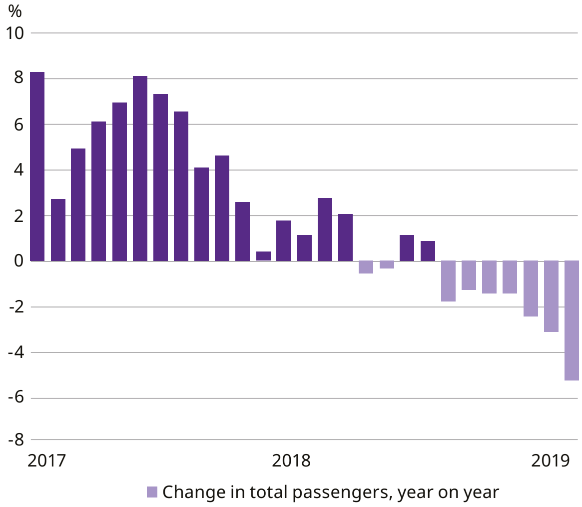
Aviation is a sector that will be incredibly tough to decarbonise. Batteries and fuel cells are unlikely to work in aircraft except over short distances. Longer term, the fossil fuels powering planes will probably have to be replaced with biofuels and synthetic fuels; technologies that are currently expensive and scarce. However, demand management can also play a role, and this is where flygskam comes in.

Shifts in transport modes and logistics efficiency could reduce carbon emissions from heavy-duty transport (including aviation) by 20%[1], according to an Energy Transitions Commission report looking at decarbonising hard-to-fix sectors. The move from plane to rail for short-haul passenger trips, on a kg/km basis, reduces carbon emissions by 85%[2].

The report advocates investment in railways and financial incentives for consumers to help drive the change. However, normative shifts like the flygskam movement can be very powerful too. From an investment perspective, we are particularly interested in the tagskryt side of the coin, and see tremendous potential from the growth of rail travel and rail freight.

### Fewer flyers

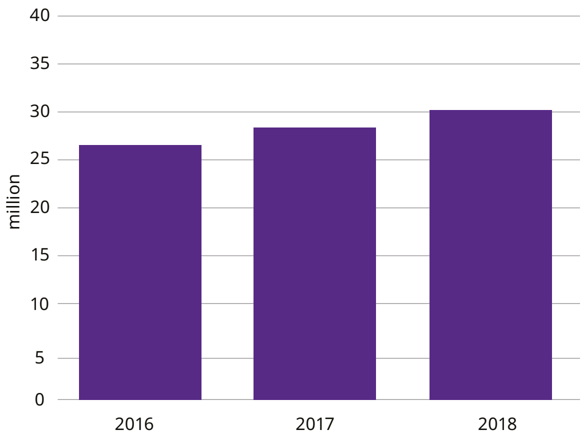
Passenger numbers at Swedavia's airports have declined for seven months




Source: Hoikkala, H. & Magnusson, N., "As 'Flying Shame' Grips Sweden, SAS Ups Stakes in Climate Battle", Bloomberg, 14 April 2019

### Steaming Ahead

Passenger numbers at Swedish train operator SJ jumped to a record last year




Source: Hoikkala, H. & Magnusson, N., "As 'Flying Shame' Grips Sweden, SAS Ups Stakes in Climate Battle", Bloomberg, 14 April 2019

1 Hoikkala, H. & Magnusson, N., "As 'Flying Shame' Grips Sweden, SAS Ups Stakes in Climate Battle", Bloomberg, 14 April 2019
2 Orange, R., "Greta Thunberg's train journey through Europe highlights no-fly movement", The Guardian, 26 April 2019

INsight

# The five practical issues of incorporating ESG into multi-asset portfolios

**We discuss the five practical issues asset owners need to address when implementing a sustainability budget for environmental, social and governance (ESG) considerations in multi-asset portfolios.**

In our last paper - Managing sustainability from a total portfolio perspective - we established how asset owners can include a sustainability budget alongside their risk and governance budgets. How to implement this at a total portfolio level is the next challenge that asset owners face.

We believe that there are five practical issues asset owners need to address when implementing environmental, social and governance (ESG) considerations across assets:

### 1. Establish an overarching ESG philosophy that applies across the total portfolio

We believe that ESG factors should be taken into account to make better investment decisions. The primary impact of ESG factors is in security selection, but we also believe it is important to consider ESG for asset allocation.

When constructing a total asset portfolio, asset owners can position their assets on a spectrum from unsustainable (0%) to 100% sustainable investing. Positioning on this spectrum may require a trade-off between sustainability and diversification; an asset owner may choose to have a lower sustainability budget that includes some unsustainable components in order to improve diversification and reduce risk. This trade-off should form part of the asset owner's ESG philosophy.

We believe it is important to understand the aggregate impact of investment choices rather than a piecemeal approach using different metrics.

### 2. Understand the effect on the total portfolio of using ESG asset components or removing asset classes that cannot incorporate ESG

Removing non-ESG components can be expensive in terms of risk because such an approach tends to increase total portfolio risk and concentration risk in the remaining asset classes, while decreasing the diversification benefit.

By contrast, our research suggests that replacing a non-ESG component with an ESG component can improve diversification and is 'low-cost' in terms of risk. It therefore seems sensible to substitute sustainable components into the portfolio where available because this approach doesn't tend to compromise an asset owner's risk/return of sustainability objectives.

### 3. Decide whether ESG should be applied to asset allocation decisions, and if so, how

Asset allocation decisions can be categorised as either strategic (i.e. longer-term, 10-30 years) or dynamic (i.e shorter-term, 3-12 month time horizon). For asset owners aiming for 100% sustainability in their assets, the strategic asset allocation should incorporate ESG. For dynamic asset allocation, the relevance of ESG to the decision depends on the time horizon of the view. Extra ESG insights are more likely to influence the medium-term than the short-term.

### 4. Decide how ESG will be applied to the component asset classes

ESG can be applied across asset classes, from developed and emerging market equities to sovereign and corporate bonds as well as insurance-linked securities, with varying degrees of complexity. In aggregate, and where possible though, we believe that the component should be managed with a sustainable approach as this seeks to identify truly long-term businesses.

### 5. Figure out how to evaluate the impact of ESG consistently across the portfolio

The total impact of a multi-asset portfolio's investments is the most important (though the hardest to measure!), to ensure it is making the best use of its sustainability budget. We have encountered numerous issues in doing so, so this is a work in progress for us (and the subject of a future paper). However, we strongly believe that it is important to have a consistent methodology across asset classes and to be able to report using an ESG 'dashboard'.

In this paper we consider all of these issues, providing our views and approach to help asset owners with the same dilemmas we have faced when developing ESG multi-asset portfolios.

Read the full report: The practical considerations of ESG in multi-asset portfolios

INsight

# The material consequences of choosing sustainable fashion

## More and more consumers are voting with their wallets to demand more sustainable textiles. The shift has huge implications for one of the planet's largest industries.

The textile industry – primarily the business of cloth and clothing – produces close to 100 million tonnes of fibres every year. This number is only set to grow as purchasing power in emerging markets rises.

The industry – and its growth - has huge consequences for the environment and climate change, producing some 1.2 billion tonnes of CO2 equivalent per year. However, an increasing number of consumers, aware of the impact that clothing choices can have on the environment, are changing their buying habits.

For an industry that makes $3 trillion per year in revenues and employs nearly 60 million workers globally, this has material consequences for investors too.

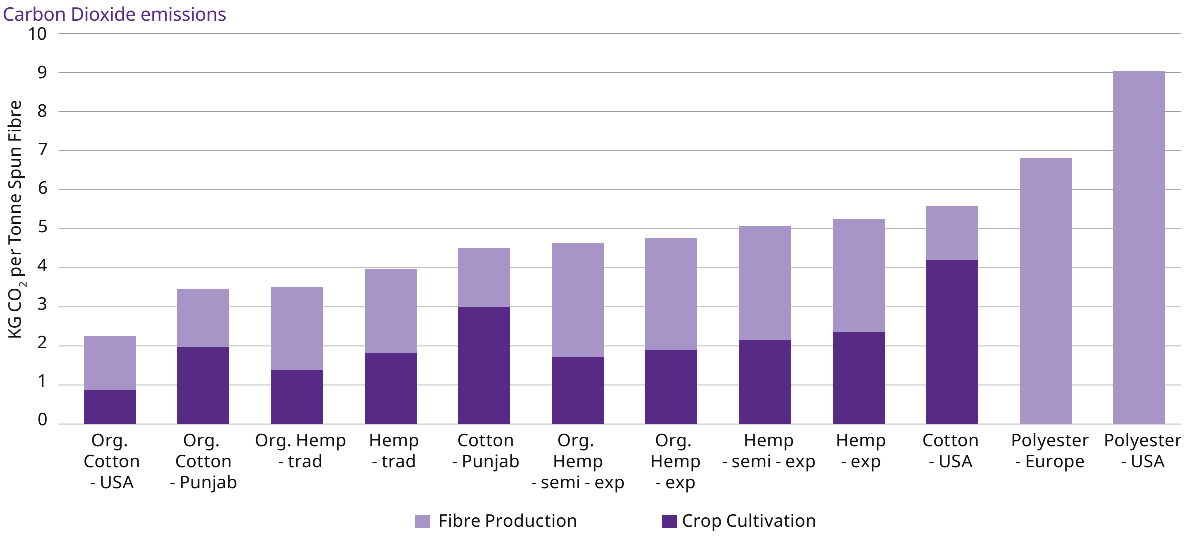
### In facts and figures

**66%** 66% of global consumers say they are willing to pay more for sustainable goods – up from 55% in 2014 and 50% in 2013, according to Nielsen data.

**¾** Millennials continue to be most willing to pay extra for sustainable offerings – almost three-out-of-four respondents in the latest findings, up from approximately half in 2014.

**65%** In emerging markets, more than 65% of emerging consumers have been found to actively seek out sustainable fashion[3].

### CO2 emissions by fibre type




Source: SEI

3 Cotton Lifestyle Monitor (n.d.) as cited in Business of Fashion (2016), The State of Fashion 2017

## What's wrong with textiles?

Even if we focus just on carbon emissions and water consumption, textile production is one of the most polluting industries globally.

## Carbon

The textile industry produces more carbon than international flights and maritime shipping. The production of 1 tonne of textiles generates 17 tonnes of CO2 equivalent, compared to 3.5 tonnes for plastic and less than 1 tonne for paper[4].

Over 60% of textiles are used in the clothing industry, and a large proportion of clothing manufacturing occurs in China and India, countries that rely on coal-fuelled power plants. This increases the carbon footprint of each garment.

The materials produced also has a noticeable effect on emissions from manufacturing. It is estimated that a single polyester t-shirt has emissions of 5.5 kg CO2, compared with 2.1 kg CO2 for one made from cotton[5].

If the industry continues on its current path, by 2050, it could use more than 26% of the carbon budget "allowed" by the Paris Accord[6] to keep global temperature rises to the 2°C target.

## Water

Textiles production (including cotton farming) uses around 93 billion cubic metres of water annually, representing 4% of global freshwater withdrawal[7]. Cotton, while less carbon intensive than polyester, is the most water intensive fibre to produce.

Beyond production, washing clothing using washing machines is estimated to require an additional 20 billion cubic metres of water per year globally[8].

The greatest challenge is accessing the water required in water-scarce regions. At present, many of the key cotton-producing countries are under high water stress, including China, India, the US, Pakistan, and Turkey[9]. In China, 80% to 90% of fabric, yarn, and plastic-based fibres are made in water-scarce or water-stressed regions[10].

Furthermore, while there is little data on "substances of concern" used across the industry, it is recognised that textile production discharges high volumes of water containing hazardous chemicals into the environment. As an example, the World Bank estimates that 20% of industrial water pollution globally is attributable to the dyeing and treatment of textiles[11].

4 Hogg, D. & Ballinger, A., "The potential contribution of waste management to a low carbon economy", 24 November 2015

5 This is because the former is produced from fossil fuels such as crude oil. In 2015, production of polyester for textiles use results in more than 706 billion kg of CO2e

6 Compared to the IEA 2°C pathway 2050 which allows for 15.3 giga tonnes of CO2 equivalent)

7 World Bank, AQUASTAT, and FAO, Dataset: Annual freshwater withdrawals, total, 2014

8 Calculation based on Circular Fibres Initiative analysis and following sources: Pakula, C., Stamminger, R., Electricity and water consumption for laundry washing by washing machine worldwide (2009)

9 Gassert, F., et al., "Water stress by country", WRI Aqueduct (2013))

10 Maxwell, D., et al., "State of the apparel sector report: Water", GLASA (2015), p.43

11 Kant, R., "Textile dyeing industry: An environmental hazard", Natural Science, Vol. 4, 1 (2012), p.23

## What are the solutions?

There are several ways the textiles industry can tackle these problems. Fibre producers that have sustainable sourcing (ie. that have certified & controlled sources), have "closed loop" systems avoiding waste, and have sustainable processing of biomass - ideally powered by renewable energy sources - have the best carbon footprints. These "bio refineries" generate pulp, bio based chemicals and energy.

There are also emerging innovations that change the way textiles are dyed in order to save water, chemical and energy use. Digital printing is one example.

One of the most effective changes could be promoting wood-based "cellulosic" fibre use. Synthetic fibres are used more than natural fibres, and of the latter, cotton still leads. Cotton and polyester dominate the fibre market, accounting for 85% of all fibre used in clothing. Cotton production is very water and pesticide intensive, whereas polyester and nylon have very poor carbon footprints. Synthetics are also not biodegradable.

Wood based cellulosic fibres are only 6% of fibres in use today, but their use is outgrowing other fibres. "Modal fibres" are a type of cellulosic fibre developed in Japan in 1951. They are made from regenerated cellulose fibre.

Modal is 50% more water absorbent per unit volume than cotton, and consumes less water in production. Modal is also resistant to shrinkage, stays colour fast when washed in warm water, and is breathable and silky smooth to the touch. Modal fibre is a generic name for viscose/rayon, which comprise 90% of all cellulosic fibres. Modal fibre is produced according to a modified viscose process and has better textile properties, therefore it is a separate generic fibre.

Lyocell is a fibre made from the natural polymer cellulose found in wood. It is 100% biodegradable, and a sub-category of rayon. It is made in a closed loop process, which means the water and non-toxic solvents are virtually all reused.

Cellulosic fibres like lyocell and modal consume far less energy than synthetic fibres, and consequently are lower carbon emitters than the main alternatives on the market. They also don't have the water withdrawal issues that cotton possesses.

Using these types of fibres could further limit the climate damage from textiles or clothes through their life cycle. Most life cycle emissions of clothes arise from the "use" phase. If we model a scenario of 50 uses of a cotton t-shirt, more emissions come from the use phase of clothing than from other activities.

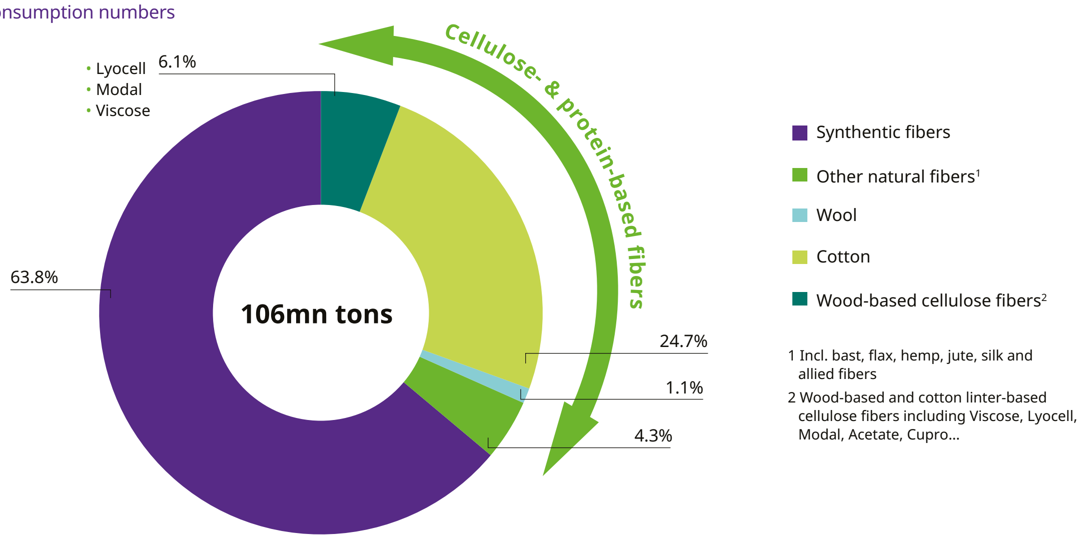
Washing and drying clothing alone is estimated to account for 120 million tonnes of $CO_2$ equivalent[12]. Fast drying products – able to improve appliance efficiency through lower temperature washing – could offer a major improvement upon the emissions associated with existing fibres.

Some fibres can enable faster drying, mainly cellulose and wool blends. Home appliances are also getting more efficient, which will help reduce carbon emissions. More recycling of fibres/extension of garment life – ie. "slower" fashion and better quality items – will also help.

The climate change impact of recycling worn out polyester or cotton waste into new polyester or cotton fibre is much lower than making the fibre from scratch. In addition, the dominance of the "use" phase emissions means that if garment lives can be extended, we can achieve strong carbon emission savings.

### $CO_2$ emissions, lifecycle

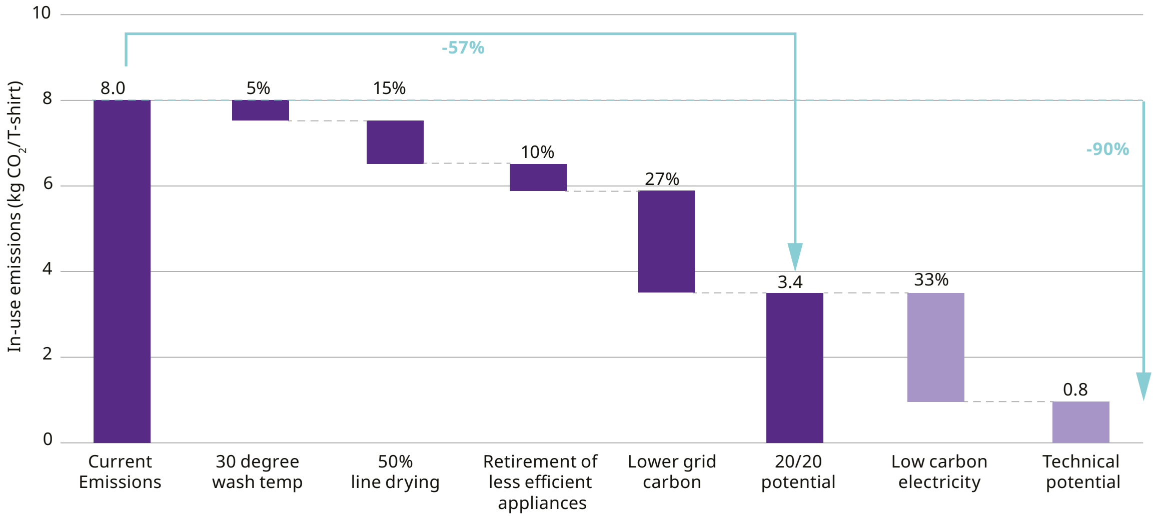
2017e consumption numbers




Source: CIRFS, The Fiber Year, The Fiber Organon, Lenzing estimates.

12 Calculation based on Circular Fibres Initiative analysis and following sources: Pakula, C., Stamminger, R., Electricity and water consumption for laundry washing by washing machine worldwide (2009); Dupont, Consumer Laundry Study (2013)

### Global fibre market at a glance




Source: Carbon trust

## What is being done?

Textiles is an industry that contributes close to 10% to global carbon emissions. We see considerable potential to reduce this by focusing on cellulosic fibres, using digital printing, and improving resource preservation, as well as focusing more on recycling and in-use emissions.

Change, encouragingly, is looking more likely now than ever. The UK Parliament's Environmental Audit Committee published its proposals for improving the sustainability of the fashion industry in February. Recommendations include strengthening the Modern Slavery Act, using taxation as a way to penalise companies selling products with higher environmental impacts, and introducing an Extended Producer Responsibility scheme to reduce waste.

There is growing momentum in China too, which has focused on building a greener supply chain within the fashion and textile industries for some time, via its five-year plan. In January, the China National Textile and Apparel Council revealed national ambitions to forge a new image under three new labels "Technology, Fashion and Green" and it specified intentions to tighten its grip on environmental issues.

# INsight

# Trash talk: why waste might not be wasted

## With consumers showing few signs of cutting down on the waste they create, we look at how our rubbish can be used to produce energy and reduce the use of fossil fuels.

Nobody wants to see it, but it is everywhere. The volume of municipal solid waste - consisting of discarded everyday items - is set to almost double from 1.3 billion tonnes to 2.2 billion tonnes by 2025 according to the World Bank[13].

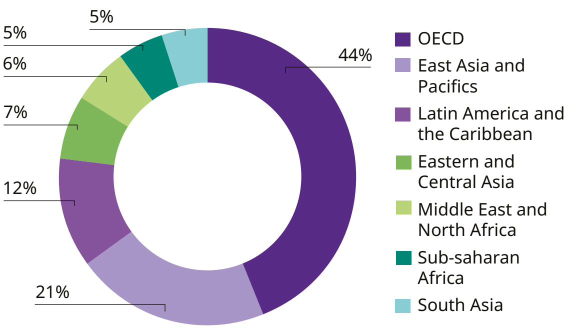
That growth implies an increase from 1.2kg to 1.4kg per person per day over the next 15 years[14]. Oceans will contain more plastic than fish by 2050, according to World Economic Forum estimates, emphasizing the scale of the challenge[15].

Rising incomes and more urban populations play a critical role, accelerating the amount of solid waste produced. The developed nations of the Organisation for Economic Co-operation and Development (OECD) generate almost half of all global waste.

### Another man's treasure

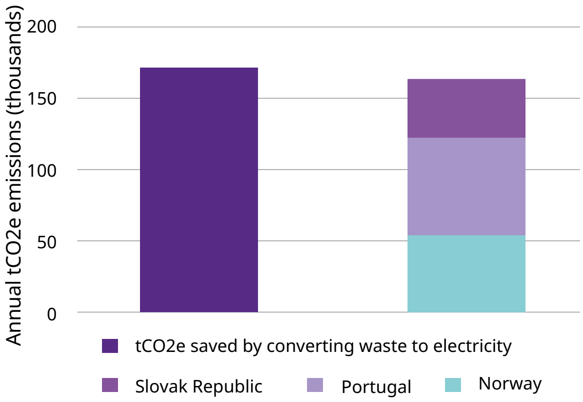
Increasingly, however, waste is being seen for what it could be: a valuable commodity. A tonne of solid waste can generate 500-600kWh of electricity. With roughly 700 million tonnes of waste generated in OECD countries annually[16], this implies approximately 370,000 GWh of electricity potential, approximately 35% of which is currently sent to landfill sites[17]. Turning all this solid waste into electricity could reduce electricity generated from fossil fuels in the OECD by approximately 6%, which is – depending on the fuel mix – approximately equivalent to eliminating all greenhouse gas emissions of Norway, Portugal and the Slovak Republic combined.

### Waste generation per capita, per day




Source: World Bank, March 2012

### The amount of carbon dioxide that converting waste could save




Source: WTET, Columbia University

13 World Bank, Dataset: "What a waste", 2012
14 World Bank, Dataset: "What a waste", 2012
15 World Economic Forum, "The New Plastics Economy: Rethinking the future of plastics", January 2016
16 OECD, Dataset: Municipal waste, Generation and Treatment
17 OECD, "Policy Roundtables: Waste Managmeent Services", 2013

It is of course, a complex topic. There is no one-size-fits-all solution to the waste-to-energy conundrum and capturing value will almost certainly be less straight forward than our estimates suggest. Not all waste is equally suitable for generating energy of any sort. Our simplified example above just outlines the potential scale of the opportunity to extract value by reprocessing waste productively.

However, regulators and corporates are increasingly aware of the possibility to cut the impact upon global emissions significantly, and their actions, along with improving technologies, provide increasingly attractive business opportunities.

The field is likely to continue to evolve; technologies range from traditional burning of waste for heat to newer approaches like plastic eating bacteria[18], with new ideas continuing to emerge. Regardless of the technology used, consumers are showing few signs of cutting down their consumption or the waste they create. Turning trash into treasure looks crucial in limiting temperature increases to 2°C.

18 Embury-Dennis, T., "Plastic-eating bacteria discovered by student could help solve global pollution crisis", 30 June 2018

INsight

# What is the Green New Deal and what does it mean for investors?

## The US Green New Deal is a highly ambitious project to tackle climate change and inequality, which we think represents a major shift in the way investors think about climate change.

Humanity's effect on planet earth is so significant that we have collectively ushered in a new geological age. In this new "Anthropocene" era – or age of humans – we as a species are recognised as the single most important factor in climate change. It draws to an end the ~12,000 year Holocene era of stable and predictable climate.

The impacts of human activity are felt in many areas. Air pollution, deforestation, species extinction, soil degradation, and coral bleaching - to name a few – are unfolding at a bewildering pace in a planetary context and putting the world's population at risk. Action to both mitigate the impacts and adapt to the changes is inevitable. While consumers are increasingly aware of the need to change, and the power of voting with wallets is increasingly relevant[19], public policy will be crucial in setting the right framework for societal and economic activity.

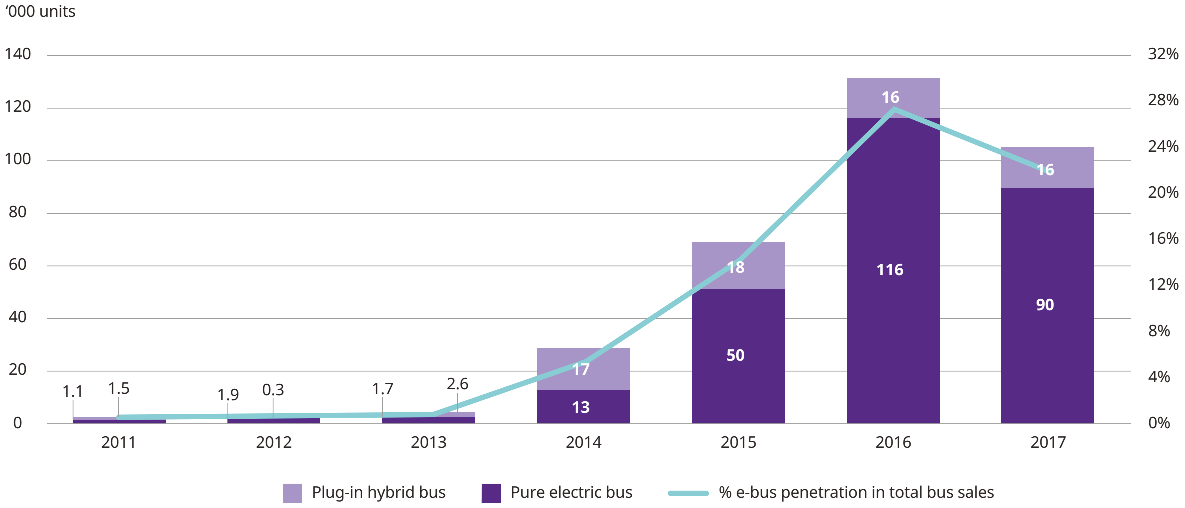
Fifty-four countries around the world have now announced plans to make their power 100% renewable. Some others have committed to change of a similar magnitude. France confirmed a draft energy plan that would double its renewable energy capacity to 113GW by 2028[20]. Electric car sales have grown to half Norway's total[21]. Several Chinese cities have replaced all of their diesel buses with electric equivalents over the last couple of years[22].

However, nowhere has yet put together a complete package of change, nor attempted change on the same scale, as that proposed by the US' Green New Deal.

The Green New Deal (GND) is a stimulus package aiming at completely overhauling the US' existing energy production, manufacturing, and transportation system within the next 10 years, including sourcing 100% renewable energy[23].

In addition to environmental policies, the GND also targets poverty, unemployment, and inequality, with included proposals ranging from re-training and education programmes, to federal job-guarantees, investments focused on low-income communities and even basic income and universal healthcare programmes[24]. It implies radical change to the way the US economy functions.

### China electric bus sales and share of total bus sales




Source: Weforum

19 World Bank, Dataset: "What a waste 2.0", 2018
20 RZ News, "France confirms draft clean power plans", 28 January 2019
21 Holter, M., "Tesla Mania Means Over Half of Norway Car Sales Are Now Electric", 1 April 2019
22 Gray, A., "China is adding a London-sized electric bus fleet every five weeks", 26 April 2018
23 Green New Deal website
24 Kopf, D., "What's a universal basic income doing in Ocasio-Cortez's "Green New Deal"?", 13 December 2018

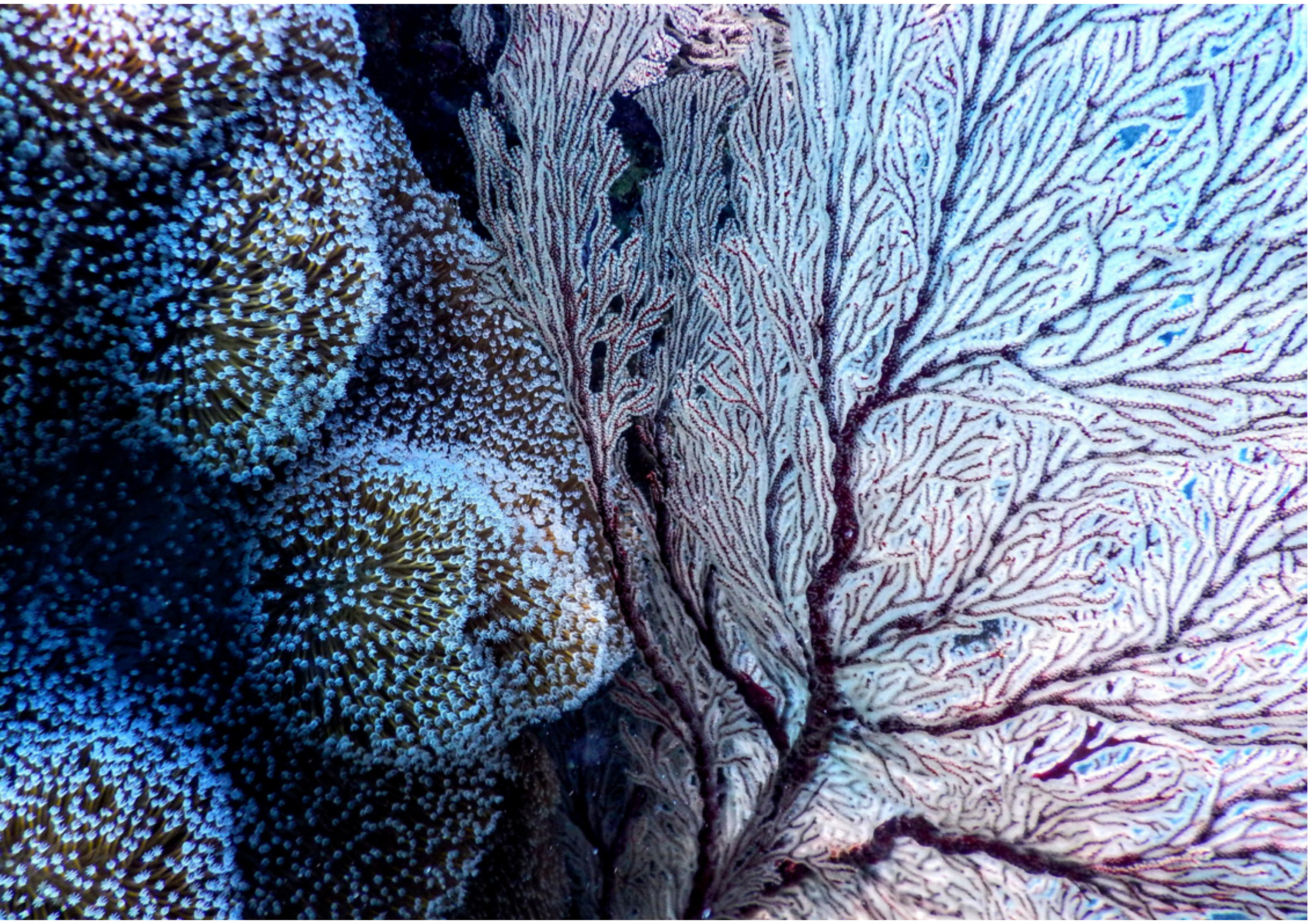
While unlikely to pass in its current form, the resolution has so far accumulated 91 cosponsors in the House of Representatives[25] and provided a focal point for enthusiastic support from large parts of civil society. Given the nature and scale of the resolution, critics have outlined numerous arguments as to why the GND in its current form would not succeed, including the associated costs, its complexity, and overly optimistic time horizons. Consequently, it remains to be seen how or if the GND will overcome the political and practical hurdles it must to move ahead.

That said, the same considerations were raised when President J.F. Kennedy announced plans to put a man on the moon in the 1960's. And that project was optional, rather than driven by impending threats to the planet.

Andrew Howard, Head of Sustainable Research at Schroders, believes that however it does materialise, governments will be challenging both the private and public sectors to address climate – as well as many social – concerns.

"For most of the last 70 years, companies were able to operate by pushing a lot of the costs created by their products, services and operations onto society. We are seeing a response and a rebalancing. Since the financial crisis, voters have given governments a stronger mandate to regulate irresponsible corporate behaviour. Companies are being forced to internalise costs they previously pushed onto society. More and more of companies' unpriced social impacts will become priced financial impacts."

As such, even if it is not the GND, a policy of similar scale will have to be implemented at some stage in the future.



25 Library of Congress, "Recognizing the duty of the Federal Government to create a Green New Deal", 7 February 2019

INfluence

# Corporate governance: Thinking fast and slow

**Schroders' experts, including Head of Stewardship Jessica Ground, discuss the importance of good corporate governance and the company's unique approach to measuring its success.**

Good corporate governance (CG) matters.

Yet the consensus amongst academics and professional practitioners about what 'good governance' actually looks like is mixed.

The UK is often seen as a leader in corporate governance. However, that did not stop Carillion, a major listed company, going into liquidation in 2017 following some serious CG failures.

Similarly, it has not meant that the UK has outperformed other developed markets. Indeed it has lagged the US whose corporate governance code is conspicuous by its absence.

## Too much System 1 thinking

We believe that part of the problem is that current CG assessment techniques focus too heavily on what Daniel Kahneman, author of Thinking Fast and Slow, described as 'System 1 thinking' which comprises our intuition, gut-reactions based on first impressions, and easy to access information.

The prevalence of System 1 thinking in CG measurement is clear in the abundance of long lists of governance boxes to tick, codes to comply with and 'quick' governance scores.

We see plenty of evidence that this System 1 approach does not work, from the returns generated by US technology companies with unconventional governance structures to the issues experienced by companies such as Toshiba, which had all the right committees, 25% independent directors and had been viewed as a model of good governance in Japan.

## Our System 2 assessment framework

As fundamental investors, we firmly believe assessing governance is worthwhile and is a factor that can support performance. But determining a framework to assess this in an evidence-based and relevant manner is more complex than conventional scores and codes would have you believe.

The time has come for some slower thinking.

We believe the CG landscape needs more of Kahneman's 'System 2 thinking' and not an exclusive focus on easy to access information. System 2 thinking is the more critical thinking used for reflection, problem-solving, and analysis.

Using this thinking has enabled the development of a framework for assessing good CG that differs from the approach that more traditional measures take. Essentially, more conventional methods focus on the inputs of CG, rather than their desired outcomes.

The starting base for the methodology of most governance scores is a local corporate governance code or an international norms-based structure, which is used as a measuring stick against which to assess companies' governance abilities.

We believe in an approach identifying the desirable outcomes of good CG and have distilled them down to business oversight (financial transparency and lack of controversies), strategic oversight (effective capital allocation) and shareholder alignment (protection of minority rights). We have then sought to identify indicators for these outcomes that have a positive effect on financial performance.

Our indicators captured factors that are not recognised by traditional governance scores such as the likelihood of earnings manipulations or bankruptcy. The rise of unconventional data has assisted with this.

For example, quite often, we successfully follow strong managers and directors from company to company, and vice versa. The help of our Data Insights Unit has been instrumental in enabling us to measure the strength, expertise and track records of companies' respective boards.

Our extensive research also indicated that independent, diverse, unitary, and smaller boards are associated with better business and strategic oversight. We have long been advocates of all of these things as our ESG policy and engagement approach has shown.

Our research did throw up some surprises. Neither the presence of an audit committee nor its independence featured as reliable indicators of good CG. However, we are still advocates of independent audit committees. We found that of greater importance was how the board treated minority shareholders and the CEO being aligned with shareholders with shareholdings and the right remuneration plans.

## A more meaningful approach

Taking distinct perspectives of CG in the form of business and strategic oversight, as well as shareholder alignment, appear to be more meaningful as opposed to an approach that simplifies these perspectives down to the lowest denominator.

Our framework is all about combining the immediate System 1 process of simply considering traditional governance inputs as the basis for assessing CG, with the slower thinking System 2 method associated with identifying the desirable, but less easily quantifiable, outcomes of good CG.

Rather than focusing on the easiest option of linear box-ticking it is best to think both fast and slow when it comes to identifying best CG practice.

The value of investments and the income from them may go down as well as up and investors may not get back the amounts originally invested.

This article first appeared in Financial News.

Read the full report: Corporate Governance: Thinking Fast and Slow

INfluence

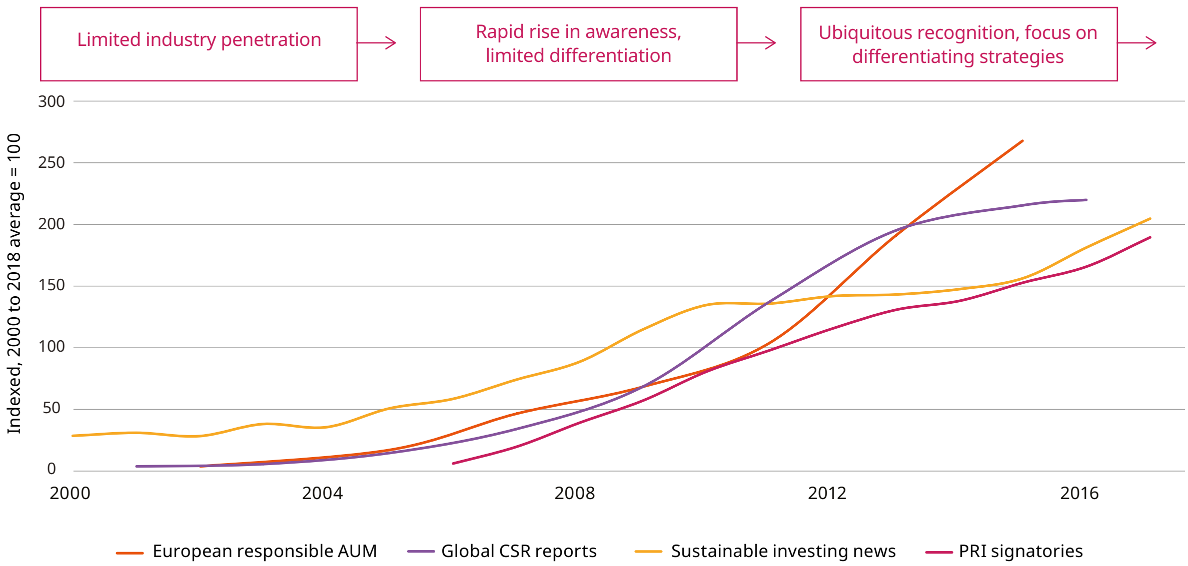
# The past, present and future of engaging for better transparency

**ESG engagement has grown significantly over the last few decades, most of it focused on encouraging greater corporate transparency. In many ways, it has been successful; sustainability reporting has become institutionalised across large companies in developed markets. The quality, depth and breadth of that information has improved, but the progress is patchy and gaps between leaders and laggards are widening. We are shifting our efforts toward those laggards.**

## PAST: ESG engagement has resulted in more transparency from corporates

When we started recording our ESG engagements with companies back in 2000, we had very little disclosure from companies on a) their performance across key aspects of environmental and social risk or opportunities and b) what management systems they had in place to manage these risks. A large proportion of our effort naturally focused on pushing for more transparency, absent a clear view of companies' performances or the risks they faced. As demonstrated by the graph below, investors have not been the only stakeholder group pushing for greater transparency. However, the correlation between the growth in responsible investment, sustainable investing news and signatories to the UN Principles for Responsible Investment, suggests that investors can take some credit for the rise in transparency.

### Rise in engagement and corporate transparency




Source: Hightail (news search for articles containing 'sustainable investing' relative to all articles referring to 'investing', principles for responsible investment (number of signatories) and EuroSIF (combined AUM invested in different ESG strategies, adjusted for double-counting).

## PRESENT: We've achieved greater disclosure. Now, what do?

Investors may be able to claim some of the credit for increased transparency from companies and demonstrate active ownership and the fulfilment of stewardship duties. However, there have been three unintended consequences of investors' engagement efforts:

**Unequal disclosure levels across regions**

Disclosure levels vary significantly across regions. We looked at engagement data from the PRI's collaborative engagement platform, the Clearing House. This repository of joint engagements by ESG investors suggests 50% of the engagements since 2006 have been with European-listed companies[26]. Indeed, many European companies comment that they are overwhelmed with surveys, questionnaires and data requests.

**Some sustainability topics are favoured over others**

The same PRI study on collaborative engagements shows that environmental issues are the most popular topic for engagement. Looking at the top ten countries by market capitalisation, our own analysis shows that average disclosure rates on carbon emissions are consistently higher than disclosure on health and safety.

**Polarisation between leaders and laggards**

There is a danger that institutional investors continue to take the path of least resistance, talking to the companies they know best, on the topics they understand most about. In this way, they risk focusing only on the leaders, while the laggards fall further behind. Companies across all industries face challenges on many fronts. The effects will not be dictated by the topics that are easiest to measure or centred on the most transparent companies, potentially leaving investors blind-sided by unexpected risks.

## FUTURE: Going beyond disclosure requests

In regions where corporate disclosure is more advanced, reporting is moving beyond an exercise in meeting investors' demands for information. Leading companies are increasingly demonstrating how their strategies, and risk measurement and management, yield distinctive competitive advantage. Two key trends are taking leading companies beyond "compliant" disclosure:

1. **Business case:** Growing recognition of the business case for engaging with social and environmental challenges. For instance, the latest Responsible Business Trends Report has seen the number of companies acknowledging the revenue opportunities presented by sustainable investing as rising from 49% to 56% in the past four years[27].
2. **Accountability:** Rising pressure to take greater ownership of global social and environmental challenges. At its simplest, this tends to result in reframing existing activities around sustainable development goals (SDGs). In turn, this pushes companies to consider their impacts in the context of societal goals rather than relative to peers. Initiatives like the Science-Based Targets and Future Fit put the emphasis on companies' exposure in absolute terms rather than relative to peers.

## Conclusion: close the gap and quantify impacts

Corporate transparency, reporting regulations and best practice have all changed significantly since we started engaging with companies nearly two decades ago. As we look forward we are focusing our engagement efforts on closing the gap between regional and sector disclosure levels, and targeting engagement with companies which provide little transparency as well as re-balancing our engagement to focus more on Asia and the US. We are also encouraging leading companies to adopt the "accountability" approach to reporting. We believe that by acknowledging stakeholders, understanding longer-term resource constraints and contributions to global systems, and quantifying business impacts, will help investors to more accurately reflect the risks and opportunities of sustainability issues.

26 Dimon, E., Karakaş, O and Li, X. "Local leads, backed by global scale: the drivers of successful engagement", 2017

27 Ethical Corporation, "The Responsible Business Trends Report 2018", 2018

## Second quarter 2019

# Total company engagement

Our ESG team had 763 engagements this quarter with the 709 companies listed below, on a broad range of topics categorised under “environmental”, “social” and “governance”. They included one-to-one meetings, joint investor meetings, conferences, teleconferences, written correspondence and collaborative engagements.

| Company | E | S | G |
|---|---|---|---|
| **Consumer Discretionary** | | | |
| 361 Degrees | | | ✔ |
| ABC Mart | | | ✔ |
| Accor | | | ✔ |
| Amazon | | ✔ | |
| Anta Sports | | | ✔ |
| Antena 3 | | | ✔ |
| Autins Group | ✔ | | ✔ |
| BMW | | | ✔ |
| Booking Holding | ✔ | ✔ | |
| BorgWarner | | | ✔ |
| Brembo | | | ✔ |
| BTG Hotels Group | | | ✔ |
| Burberry Group | ✔ | | ✔ |
| Burlington Stores | | | ✔ |
| Cairo Communications | | | ✔ |
| Carnival | | | ✔ |
| Charter Communications | ✔ | | ✔ |
| Cheesecake Factory | ✔ | | |
| China CYTS Tours | | | ✔ |
| China Lilang | | | ✔ |
| China Zhengtong Auto Services | | | ✔ |
| Chow Sang Sang | | | ✔ |
| Compass Group | ✔ | | ✔ |
| Consorcio | | | ✔ |
| Cyrela Brazil Realty | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Dalata Hotel Group | | | ✔ |
| Discovery Communications | | | ✔ |
| Dometic Group | | | ✔ |
| Dufry | | | ✔ |
| EZ TEC Empreendimentos | | | ✔ |
| Faurecia | | | ✔ |
| Ferrari | | | ✔ |
| Fiat Chrysler | | | ✔ |
| Forbo Holding | | | ✔ |
| Fu Shou Yuan International | | | ✔ |
| Galaxy Entertainment | | | ✔ |
| Galeries Lafayette | | | ✔ |
| Geely Automobile Holdings | | | ✔ |
| Golden Eagle | | | ✔ |
| Gourmet Master | ✔ | | |
| Greene King | ✔ | | |
| SEB | | | ✔ |
| Guangzhou Auto | | | ✔ |
| Hangzhou Robam Appliances | | | ✔ |
| Henry Boot | | | ✔ |
| Home Depot | | ✔ | |
| HT&E | | | ✔ |
| HUAYU Automotive Systems | | | ✔ |
| Husqvarna | | | ✔ |
| IMA | | | ✔ |
| Informa | | | ✔ |

Source: Schroders as at 30 June 2019.
The companies and sectors mentioned herein are for illustrative purposes only and are not to be considered a recommendation to buy or sell.

## Second quarter 2019

# Total company engagement

| Company | E | S | G |
|---|---|---|---|
| Ipsos | | | ✔ |
| ITV | | | ✔ |
| Jardine Cycle & Carriage | | | ✔ |
| Jason Furniture Hangzhou | | | ✔ |
| Jc Decaux | | | ✔ |
| Kaufman & Broad | | | ✔ |
| Kering | | | ✔ |
| Kindred | | | ✔ |
| Lifestyle International | | | ✔ |
| Lojas Americanas | | | ✔ |
| Lojas Renner | | | ✔ |
| LVMH | | | ✔ |
| Marks and Spencer | ✔ | | |
| Marshall Motor | | | ✔ |
| McDonalds | | ✔ | |
| Mediaset | | | ✔ |
| Mediaset | | | ✔ |
| Metall Zug | | | ✔ |
| Metropole | | | ✔ |
| MGM China | | | ✔ |
| Midea | | | ✔ |
| Modern Times | | | ✔ |
| NagaCorp | | | ✔ |
| Naspers | | | ✔ |
| Nike | | ✔ | |
| Nokian | | | ✔ |
| Ocado | | | ✔ |
| Omnicom | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Overseas Education | | | ✔ |
| Pendragon | | | ✔ |
| Peugeot | | | ✔ |
| Plastic Omnium | | | ✔ |
| Playtech | | | ✔ |
| Publicis Groupe | | | ✔ |
| Quixant | | | ✔ |
| Sands China | | | ✔ |
| Shenzhou International | | | ✔ |
| Sogefi | ✔ | | ✔ |
| Starbucks | ✔ | | |
| Sun TV Network | | | ✔ |
| TCL Multimedia Technology | | | ✔ |
| Technogym | | | ✔ |
| Telenet | | | ✔ |
| Television Francaise | | | ✔ |
| The Swatch Group | | | ✔ |
| Tianneng Power International | | | ✔ |
| Trinity | | | ✔ |
| URBI | | | ✔ |
| Veoneer | | | ✔ |
| Vivendi Universal | | | ✔ |
| Volkswagen | | | ✔ |
| Whitbread | ✔ | | ✔ |
| Wynn Macau | | | ✔ |
| Xingda International | | | ✔ |
| Xinyi Glass | | | ✔ |
| Yue Yuen Industrial | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Yum China | ✔ | | |
| **Consumer Staples** | | | |
| AG Barr | ✔ | | |
| Alicorp | ✔ | | |
| AmBev | | | ✔ |
| Amorepacific | ✔ | | |
| Anheuser Busch InBev | | | ✔ |
| Arca Continental | | | ✔ |
| Austevoll Seafood | | | ✔ |
| Beiersdorf | ✔ | | |
| BIM | | | ✔ |
| BRD | | | ✔ |
| British American Tobacco | | | ✔ |
| Britvic | ✔ | | ✔ |
| Carrefour | ✔ | | ✔ |
| Casino Groupe | ✔ | | ✔ |
| Changshouhua Food | | | ✔ |
| China Mengniu Dairy | ✔ | | |
| China Resources Beer | | | ✔ |
| Clorox Company | ✔ | | |
| Coca Cola Amatil | ✔ | | |
| Colgate Palmolive | ✔ | | |
| Convenience Retail Asia | ✔ | | |
| Cosmecca Korea | ✔ | | |
| Costco | | ✔ | |
| Dali Foods | | | ✔ |
| Danone | ✔ | | ✔ |
| Diageo | ✔ | | |
| Emmi | | | ✔ |
| Essity | | | ✔ |
| Estée Lauder | ✔ | | |
| First Resources | | | ✔ |
| General Mills | ✔ | | |
| Glanbia | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Godrej Consumer Products | ✔ | | |
| Greggs | ✔ | | |
| Gruma | | | ✔ |
| Heineken Malaysia | | | ✔ |
| Hengan International | ✔ | | |
| Henkel | | | ✔ |
| Hershey Foods | ✔ | | |
| Hypermarcas | | | ✔ |
| Industrias Bachoco | | | ✔ |
| Inner Mongolia Yili Industrial Group | ✔ | | |
| J Sainsbury | ✔ | | |
| Jeronimo Martins | | | ✔ |
| Jiangsu Yanghe Brewery | | | ✔ |
| Kellogg | ✔ | | |
| Kerry Group | ✔ | | |
| Kimberly-Clark | ✔ | | |
| Koninklijke Ahold Delhaize | ✔ | | |
| Korea Kolmar | ✔ | | |
| L'Oreal | | | ✔ |
| Magnit | | | ✔ |
| Marine Harvest | | | ✔ |
| Metcash | ✔ | | |
| Nestle | ✔ | | ✔ |
| OCI | | | ✔ |
| Oriflame | | | ✔ |
| Performance Food | ✔ | | |
| Philip Morris | | ✔ | ✔ |
| Raia Drogasil | | | ✔ |
| Springland International | ✔ | | ✔ |
| TCI | | | ✔ |
| Tesco | ✔ | | |
| Tingyi Holdings | ✔ | | |
| Treatt | ✔ | | ✔ |
| Unilever | ✔ | | ✔ |

Source: Schroders as at 30 June 2019.
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| Company | E | S | G |
|---|---|---|---|
| Uni-President China | ✔ | | ✔ |
| Vinamilk | ✔ | | |
| Vinda International | | | ✔ |
| Walgreens Boots Alliance | | ✔ | |
| Walmart | | ✔ | |
| Want Want China Holdings | ✔ | | |
| Wesfarmers | ✔ | | |
| Wilmar International | | | ✔ |
| Wm. Morrison | ✔ | | |
| Woolworths | ✔ | | |
| Wuliangye | | | ✔ |
| X5 | | | ✔ |
| Yakult Hosha | ✔ | | |
| **Energy** | | | |
| Aker | | | ✔ |
| Baytex Energy | | | ✔ |
| Cairn Energy | ✔ | | ✔ |
| Centennial Resource Development | | | ✔ |
| China Oilfield Services | | | ✔ |
| CNOOC | | | ✔ |
| ENI | ✔ | | ✔ |
| Enquest | ✔ | | ✔ |
| Erg | | | ✔ |
| Euronav | | | ✔ |
| Exmar | | | ✔ |
| Formosa Petrochemical | ✔ | | |
| Fugro | | | ✔ |
| GTT | | | ✔ |
| Hunting | ✔ | | ✔ |
| Husky Energy | | | ✔ |
| Lamprell | | | ✔ |
| MOL | | | ✔ |
| Noble Corporation | | | ✔ |
| Petrobras Distribuidora | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Petrobras | | | ✔ |
| Petrofac | ✔ | | ✔ |
| Peyto | | | ✔ |
| Reliance Industries | ✔ | | |
| Royal Dutch Shell | ✔ | | |
| Semirara Mining | | | ✔ |
| Sinopec | ✔ | | ✔ |
| Statoil | | | ✔ |
| Tenaris | | | ✔ |
| Total | | | ✔ |
| Total Gabon | | | ✔ |
| Transportadora de Gas del Sur | | | ✔ |
| Tullow Oil | | | ✔ |
| Wood Group | ✔ | | ✔ |
| Yanzhou Coal Mining | | | ✔ |
| **Financials** | | | |
| Amundi | | | ✔ |
| Arch Capital | | | ✔ |
| Arrow Global | | | ✔ |
| Assicurazioni Generali | | | ✔ |
| Attijari Wafa Bank | | | ✔ |
| Aviva | | | ✔ |
| AXA | | | ✔ |
| Axis Capital | | | ✔ |
| Ayala Land | | | ✔ |
| Baloise Holding | | | ✔ |
| Banca Generali | | | ✔ |
| Banca Sistema | | | ✔ |
| Banca Transilvania | | | ✔ |
| BTG Pactual | | | ✔ |
| BB Seguridade | | | ✔ |
| Banco do Brazil | | | ✔ |
| Banco Frances | | | ✔ |
| Banco Macro | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Banco Santander | | | ✔ |
| Bank Negara Indonesia | | | ✔ |
| Bank of China | | | ✔ |
| Bank Pembangunan | | | ✔ |
| Bank Rakyat Indonesia | | | ✔ |
| Barclays | | | ✔ |
| BM&F Bovespa | | | ✔ |
| BolsaMexicana de Valores | | | ✔ |
| Capital Shopping Centres | | | ✔ |
| Catal Occidente | | | ✔ |
| Cerved Information Solutions | | | ✔ |
| China Citic Bank | | | ✔ |
| China Life Insurance | | | ✔ |
| China Literature | | | ✔ |
| China Pacific Insurance | | | ✔ |
| Close Brothers | ✔ | | ✔ |
| CLS Holdings | | | ✔ |
| CNP Assurances | | | ✔ |
| Coface | | | ✔ |
| Compass Diversified Holdings | | | ✔ |
| Country Garden | | | ✔ |
| Credit Agricole | | | ✔ |
| Credit Suisse | | | ✔ |
| Credito Emiliano | | | ✔ |
| Dah Sing Banking Group | | | ✔ |
| DBS Bank | | | ✔ |
| Derwent London | ✔ | | ✔ |
| Deutsche Bank | | | ✔ |
| East West Banking Corp | | | ✔ |
| E-L Financial Corporation | | | ✔ |
| Emlak | | | ✔ |
| Equity Bank | | | ✔ |
| Equity Lifestyle Properties | | | ✔ |
| Erste Bank | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Euronext | | | ✔ |
| Fairfax India | | | ✔ |
| Fibra Uno | | | ✔ |
| FinecoBank | | | ✔ |
| First Interstate Bancsystem | | | ✔ |
| First Merchants | | | ✔ |
| Fonciere des Regions | | | ✔ |
| Genworth Mortgage | | | ✔ |
| Great Portland Estates | ✔ | | ✔ |
| Groupe Bruxelles Lambert | | | ✔ |
| Guaranty Trust Bank | | | ✔ |
| Habib Bank | | | ✔ |
| Haitong International Securities | | | ✔ |
| Halkbank | | | ✔ |
| Hammerson | | | ✔ |
| Hang Lung | | | ✔ |
| Hannover Re | | | ✔ |
| Hong Leong Finance | | | ✔ |
| Hongkong Land | | | ✔ |
| HSBC | | | ✔ |
| iFast | | | ✔ |
| IGM Financial | | | ✔ |
| Independence Realty Trust | | | ✔ |
| ING | | | ✔ |
| Intergroup | | | ✔ |
| Intermediate Capital Group | ✔ | | ✔ |
| International Personal Finance | | | ✔ |
| Intesa Sanpaolo | | | ✔ |
| James River Group | | | ✔ |
| Joy City Property | | | ✔ |
| JP Morgan Chase | | | ✔ |
| Jupiter Fund Management | ✔ | | ✔ |
| Just Retirement | ✔ | | ✔ |
| KBC Groep | | | ✔ |

Source: Schroders as at 30 June 2019.
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| Company | E | S | G |
|---|---|---|---|
| Kenya Commercial Bank | | | ✔ |
| Kerry Properties | | | ✔ |
| KLEPIERRE | | | ✔ |
| Lloyds Banking Group | ✔ | | ✔ |
| Loews Corp | | | ✔ |
| Longfor Properties | | | ✔ |
| LSE | ✔ | | ✔ |
| MAX | | | ✔ |
| Madinet Nasr for Housing | | | ✔ |
| Metrovacesa | | | ✔ |
| MLP | | | ✔ |
| Nexity | | | ✔ |
| OTP | | | ✔ |
| Pargesa Hldgs | | | ✔ |
| Parque Arauco | | | ✔ |
| Partners Group | | | ✔ |
| Ping An Insurance | | | ✔ |
| PKO Bank | | | ✔ |
| Poly Real Estate | | | ✔ |
| Power Corp Canada | | | ✔ |
| Provident Financial | | | ✔ |
| Public Bank | | | ✔ |
| PZU | | | ✔ |
| Qualitytech | | | ✔ |
| RenaissanceRE | | | ✔ |
| Rexford Industrial Realty | | | ✔ |
| RIT Capital Partners | | | ✔ |
| Robinsons Land | | | ✔ |
| Royal Bank of Scotland | ✔ | | ✔ |
| S & U | | | ✔ |
| Santander Bank Polska | | | ✔ |
| Sberbank Rossii | | | ✔ |
| Schroders | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Segro | | | ✔ |
| Shaftesbury | ✔ | | ✔ |
| Shui On Land | | | ✔ |
| Sino-Ocean Group | | | ✔ |
| Societa Cattolica di Assicurazione | | | ✔ |
| Societe Generale | | | ✔ |
| Sofina | | | ✔ |
| Spar Nord Bank | | | ✔ |
| St Galler Ktbk | | | ✔ |
| St Jamess Place Capital | | | ✔ |
| Standard Chartered | | | ✔ |
| Suning Appliance | ✔ | | |
| Suntec | | | ✔ |
| Swire Pacific | | | ✔ |
| Swire Properties | | | ✔ |
| Swiss Life | | | ✔ |
| Swiss Re | | | ✔ |
| Topdanmark | | | ✔ |
| TPG Real Estate Finance | | | ✔ |
| Turkiye Garanti Bankasi | | | ✔ |
| Unicredit | ✔ | | |
| UBS | | | ✔ |
| Urban Edge Properties | | | ✔ |
| United Overseas Land | | | ✔ |
| Vakifbank | | | ✔ |
| Valiant Holding | | | ✔ |
| Value Partners Group | | | ✔ |
| VICI Properties | | ✔ | ✔ |
| VZ Holding | | | ✔ |
| Westamerica Bancorporation | | | ✔ |
| Wharf Real Estate Investment | | | ✔ |
| Witan Investment Trust | | | ✔ |
| Yanlord Land Group | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Zug Estates | | | ✔ |
| **Health Care** | | | |
| Abbott Laboratories | | | ✔ |
| Abcam | ✔ | | ✔ |
| Amplifon | | | ✔ |
| AstraZeneca | | | ✔ |
| Bayer | | | ✔ |
| BioGaia | | | ✔ |
| Celgene | | | ✔ |
| Chemed Corporation | | | ✔ |
| China Medical System | | | ✔ |
| Coltene | | | ✔ |
| Consun Pharmaceutical | | | ✔ |
| Danaher | | | ✔ |
| Dawnrays Pharmaceutical | | | ✔ |
| DiaSorin | | | ✔ |
| Essilor International | | | ✔ |
| Galenica Sante | | | ✔ |
| Georgia Healthcare | | | ✔ |
| Getinge | | | ✔ |
| GlaxoSmithKline | | | ✔ |
| Hualan Biological Engineering | | | ✔ |
| Hutchison China MediTech | | | ✔ |
| IHH Healthcare Berhad | | | ✔ |
| Industri Jamu dan Farmasi | | | ✔ |
| Ipsen | | | ✔ |
| Johnson & Johnson | | | ✔ |
| Kuros Biosciences | | | ✔ |
| Lees Pharmaceutical | | | ✔ |
| Lilly, Eli & Co | | | ✔ |
| Lonza Group | | ✔ | |
| Mallinckrodt | | | ✔ |
| Mednax | | | ✔ |
| New Century Healthcare | | | ✔ |
| Odontoprev | | | ✔ |
| Pihlajalinna Oyj | | | ✔ |
| Qualicorp | | | ✔ |
| Raffles Medical Group | | | ✔ |
| Recordati | | | ✔ |
| Sihuan Pharmaceutical | | | ✔ |
| Straumann | | | ✔ |
| UCB | | | ✔ |
| Vifor Pharma | | | ✔ |
| **Industrials** | | | |
| ABB | | | ✔ |
| 3M Company | ✔ | ✔ | |
| AerCap | | | ✔ |
| AGCO | | | ✔ |
| Aggreko | | | ✔ |
| Agility | | | ✔ |
| Air China | | | ✔ |
| Air France-KLM | | | ✔ |
| Air Partner | | | ✔ |
| Aircastle | | | ✔ |
| Amadeus FiRe | | | ✔ |
| Anhui Expressway | | | ✔ |
| Assa Abloy | | | ✔ |
| Atlas Copco | | | ✔ |
| Avid Jonhon Oprtonictechnology | | | ✔ |
| Bouygues | | | ✔ |
| Brambles | ✔ | | ✔ |
| Bravida | | | ✔ |
| Bucher | | | ✔ |
| Bufab | | | ✔ |
| Bureau Veritas | | | ✔ |
| China COSCO | | | ✔ |
| China Eastern Airlines | | | ✔ |
| China Liansu | | | ✔ |

Source: Schroders as at 30 June 2019.
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| Company | E | S | G |
|---|---|---|---|
| Cia Concessoes Rodoviarias | | | ✔ |
| Cleanaway Waste Management | ✔ | | |
| Cobham | | | ✔ |
| ComfortDelgro | | | ✔ |
| Conzzeta | | | ✔ |
| Coor Service Management | | | ✔ |
| Corporacion Moctezuma | | | ✔ |
| Dassault Aviation | | | ✔ |
| Deutsche Lufthansa | | | ✔ |
| Dialight | | | ✔ |
| DMCI | | | ✔ |
| Doosan Heavy Industries | | | ✔ |
| Duerr | | | ✔ |
| ENAV | | | ✔ |
| Feintool International | | | ✔ |
| Flughafen Zuerich | | | ✔ |
| General Dynamics | | | ✔ |
| General Electric | | | ✔ |
| Georg Fischer | | | ✔ |
| GlobalData | | | ✔ |
| GlobalTrans | | | ✔ |
| Grupo Mexico Transportes | | | ✔ |
| Haitian | | | ✔ |
| Han’s Laser Technology | | | ✔ |
| Harris Corporation | | | ✔ |
| Hochtief | | | ✔ |
| HRNet Group | | | ✔ |
| Human Soft | | | ✔ |
| Indutrade | | | ✔ |
| Interpump | | | ✔ |
| Interroll | | | ✔ |
| Intertrust | | | ✔ |
| Intrum Justitia | | | ✔ |
| Irish Continental | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| JB Hunt Transport Services | | | ✔ |
| Jiangsu Hengli Hydraulic | | | ✔ |
| Kardex | | | ✔ |
| Kerry Logistics Network | | | ✔ |
| Kion Group | | | ✔ |
| Kuehne & Nagel | | | ✔ |
| LATAM Airlines | | | ✔ |
| Lonking | | | ✔ |
| Loomis | | | ✔ |
| M.P. Evans | ✔ | | ✔ |
| Maire Tecnimont | | | ✔ |
| Melrose Industries | | | ✔ |
| Michael Page | | | ✔ |
| Morgan Sindall | ✔ | | ✔ |
| Munters Group | | | ✔ |
| Nobina publ | | | ✔ |
| Norma Group | | | ✔ |
| Pfeiffer Vacuum Technology | | | ✔ |
| Pinfra | | | ✔ |
| Poenina | | | ✔ |
| Rational | | | ✔ |
| Rational | | | ✔ |
| Rentokil Initial | | | ✔ |
| Rps Group | | | ✔ |
| Safran | | | ✔ |
| Sandvik | | | ✔ |
| Schweiter Technologies | | | ✔ |
| Securitas | | | ✔ |
| Sensata Technologies | | | ✔ |
| SFS Group | | | ✔ |
| Shenzhen Expressway | | | ✔ |
| Sig | | | ✔ |
| Sinopec | | | ✔ |
| Societe BIC | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Spie | | | ✔ |
| Suez | | | ✔ |
| Sulzer | | | ✔ |
| Teleperformance | | | ✔ |
| Tomra Systems | | | ✔ |
| TPI Composites | ✔ | ✔ | ✔ |
| Travis Perkins | | | ✔ |
| Voltalia | | | ✔ |
| Yangzijiang Shipbuilding | | | ✔ |
| Yuexiu Transport Infrastructure | | | ✔ |
| Zardoya-Otis | | | ✔ |
| Zhejiang Expressway | | | ✔ |
| Zhejiang Sanhua Intelligent Controls | | | ✔ |
| **Information Technology** | | | |
| 2CRSI | | | ✔ |
| AAC Technologies | | | ✔ |
| Appen | | | ✔ |
| Asse | | | ✔ |
| Atos | | | ✔ |
| Cardtronics | | | ✔ |
| Chaozhou Three-circle Group | | | ✔ |
| Cielo | | | ✔ |
| Comet | | | ✔ |
| Dassault Systemes | | | ✔ |
| Facebook | | ✔ | |
| Focus Media Information Technology | | | ✔ |
| Genpact | | | ✔ |
| Globant | | | ✔ |
| Hexaware Technologies | | | ✔ |
| HikVision | | | ✔ |
| Holtek Semiconductor | | | ✔ |
| Infosys | | | ✔ |
| Inside Secure | | | ✔ |
| Intel | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Iress Market Tech | | | ✔ |
| Kingboard Chemical | | | ✔ |
| Kingsoft | | | ✔ |
| Kruk | | | ✔ |
| Melexis | | | ✔ |
| Motorola Solutions | | | ✔ |
| PAX Global Technology | | | ✔ |
| Paycom Software | | | ✔ |
| Reply | | | ✔ |
| Sabre | | | ✔ |
| Sensirion | | | ✔ |
| Skyworks | | | ✔ |
| Sophos | | | ✔ |
| Spirent | | | ✔ |
| STMicroelectronics | | | ✔ |
| Sunny Optical Technology | | | ✔ |
| Temenos | | | ✔ |
| Tencent | | | ✔ |
| The Ultimate Software | | | ✔ |
| Tongcheng-Elong | | | ✔ |
| Tongda | | | ✔ |
| Totvs | | | ✔ |
| TPK | | | ✔ |
| u-blox | | | ✔ |
| UMS | | | ✔ |
| Wandisco | | | ✔ |
| Wasion | | | ✔ |
| **Materials** | | | |
| Alamos Gold | | | ✔ |
| Amcor | ✔ | | |
| Angang Steel | | | ✔ |
| Anglo American | | | ✔ |
| AngloGold Ashanti | | | ✔ |
| Anhui Conch Cement | | | ✔ |

Source: Schroders as at 30 June 2019.
The companies and sectors mentioned herein are for illustrative purposes only and are not to be considered a recommendation to buy or sell.

| Company | E | S | G |
|---|---|---|---|
| AptarGroup | ✔ | | |
| Arkema | ✔ | | |
| Asahi Kasei | ✔ | | |
| Barrick Gold | | | ✔ |
| BASF | ✔ | | |
| Bekaert | | | ✔ |
| Berry Plastics | ✔ | | |
| Boliden | | | ✔ |
| Braskem | ✔ | | |
| Canfor Pulp Products | | | ✔ |
| Capstone Mining | | | ✔ |
| Centamin | ✔ | | ✔ |
| CF Industries | | | ✔ |
| China BlueChemical | | | ✔ |
| China Jushi | | | ✔ |
| China National Building Materials | | | ✔ |
| China Resource Cement | | | ✔ |
| Chongqing Zaisheng Technology | | | ✔ |
| Clariant | ✔ | | ✔ |
| CRH | | | ✔ |
| Daicel | ✔ | | |
| DIC | ✔ | | |
| Eastman Chemical Company | ✔ | | |
| Elementis | ✔ | | |
| Eramet | | | ✔ |
| Formosa Plastic | ✔ | | |
| Fresnillo | | | ✔ |
| Fufeng | | | ✔ |
| Grange Resources | | | ✔ |
| Grupo Cementos de Chihuahua | | | ✔ |
| Grupo Mexico | | | ✔ |
| Heidelberg Cement | | | ✔ |
| Hexpol | | | ✔ |
| Holcim Philippines | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Ibstock | ✔ | | ✔ |
| Imerys | | | ✔ |
| Indorama Ventures | ✔ | | |
| JSR | ✔ | | |
| KAZ Minerals | ✔ | | ✔ |
| Kumba Iron Ore | | | ✔ |
| Lafargeholcim | | | ✔ |
| Lanxess | ✔ | | |
| Lee & Man Paper Manufacturing | | | ✔ |
| Lenzing | | | ✔ |
| LyondellBasell | ✔ | | |
| Mexichem | | | ✔ |
| Mitsui Chemicals | ✔ | | |
| Mpact | ✔ | | |
| Nan Ya Plastics | ✔ | | |
| Nickel Asia | | | ✔ |
| Norbord | | | ✔ |
| Nutrien | | ✔ | |
| Orora | ✔ | | |
| Polymetal | ✔ | | ✔ |
| PT Semen Indonesia | | | ✔ |
| PTT Global Chemical PCL | | | ✔ |
| Resolute Mining | | | ✔ |
| Rio Tinto | ✔ | | |
| Sealed Air | ✔ | | |
| Sibanye Gold | | | ✔ |
| SIG Combibloc Holding | | | ✔ |
| Silgan Holdings | ✔ | | |
| Skshu Paint Co | | | ✔ |
| Smurfit Kappa | | | ✔ |
| Sociedad Quimica y Minera de Chile | | | ✔ |
| Sonoco Products | | | ✔ |
| Sumitomo Chemical | ✔ | | |
| Suzano | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Synthomer | ✔ | | |
| Ternium | | | ✔ |
| Toray Industries | ✔ | | |
| Tosoh | ✔ | | |
| Vale | | ✔ | ✔ |
| Vicat | | | ✔ |
| Yara International | | | ✔ |
| ZEON | ✔ | | |
| Zotefoams | | | ✔ |
| **Real Estate** | | | |
| Alexandria Real Estate Equities | | | ✔ |
| Allied Properties Real Estate Investment | | | ✔ |
| Altisource Portfolio Solutions | | | ✔ |
| Ascott Residence Trust | | | ✔ |
| Howard Hughes Corp | | | ✔ |
| KEPPEL DC REIT | | | ✔ |
| Manulife REIT | | | ✔ |
| Morguard REIT | | | ✔ |
| Raven Russia | | | ✔ |
| Secure Income REIT | | | ✔ |
| Soundwill Holdings | | | ✔ |
| UK Commercial Property Trust | | | ✔ |
| UOA Development | | | ✔ |
| **Telecommunication Services** | | | |
| Alphabet | | ✔ | |
| China Communication Services | | | ✔ |
| China Mobile | | | ✔ |
| China Telecom | | | ✔ |
| France Telecom | | | ✔ |
| HKT Trust | | | ✔ |
| Iliad SA | | | ✔ |
| Link Net | | | ✔ |
| Magyar Telekom | | | ✔ |

| Company | E | S | G |
|---|---|---|---|
| Maroc Telecom | | | ✔ |
| Mayora | ✔ | | |
| Megacable Cominicaciones | | | ✔ |
| Orange Polska | | | ✔ |
| Pacific Online | | | ✔ |
| STV Group | | | ✔ |
| Sunrise Communication | | | ✔ |
| Telefonica Deutschland | | | ✔ |
| Turk Telecom | | | ✔ |
| Turkcell Iletisim | | | ✔ |
| **Utilities** | | | |
| Acea | | | ✔ |
| Aguas Andinas | | | ✔ |
| Alupar Investimento | | | ✔ |
| BKW Energie | | | ✔ |
| Centrica | ✔ | | ✔ |
| CGN Power | | | ✔ |
| Cheung Kong Infrastructure | | | ✔ |
| China Longyuan Power | | | ✔ |
| China Resources Gas Group | | | ✔ |
| China Yangtze Power | | | ✔ |
| Colbun | | | ✔ |
| Drax | | | ✔ |
| EDF | | | ✔ |
| Empresa Nacional de Electricidad | | | ✔ |
| Glow Energy | | | ✔ |
| Hera | | | ✔ |
| HK Electric Investments | | | ✔ |
| Idacorp | | | ✔ |
| Iren | | | ✔ |
| Meralco | | | ✔ |
| Power Assets | | | ✔ |
| Romande Energie | | | ✔ |
| SJW Group | | | ✔ |

Source: Schroders as at 30 June 2019.
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| Company | E | S | G |
|---|---|---|---|
| Suez | ✔ | | |
| Taesa | | | ✔ |
| Tenaga Nasional Bhd | | | ✔ |
| Veolia Environnement | ✔ | | |
| Verbund | | | ✔ |

## Key

**E** – Environment
**S** – Social
**G** – Governance

## Second quarter 2019

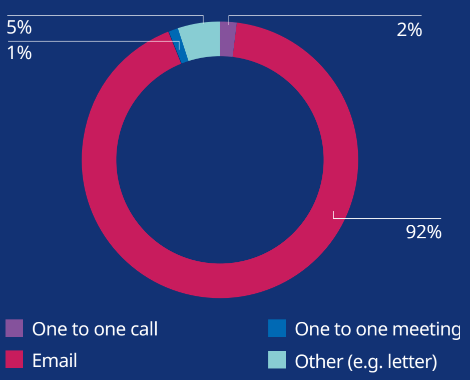
# Engagement in numbers

## Regional engagement


| | |
|---|---|
| UK | 103 |
| North America | 108 |
| Asia Pacific | 230 |
| Europe (ex-UK) | 254 |
| Middle East and Africa | 14 |
| Africa | 2 |
| Latin America | 52 |

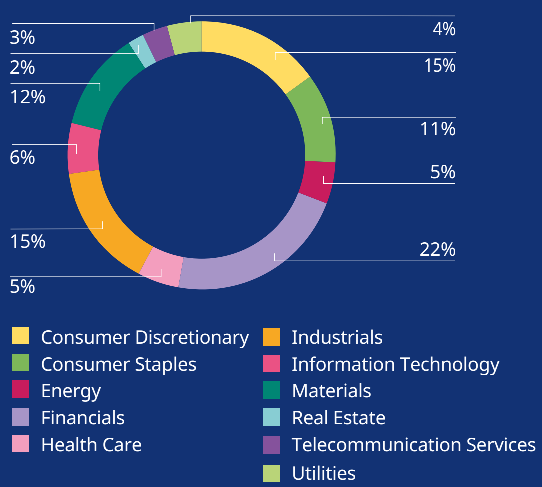
Source: Schroders as at 30 June 2019.

## Engagement type




Source: Schroders as at 30 June 2019

## Engagement by sector




Source: Schroders as at 30 June 2019

## Second quarter 2019

# Shareholder voting

We believe we have a responsibility to exercise our voting rights. We therefore evaluate voting issues on our investments and vote on them in line with our fiduciary responsibilities to clients. We vote on all resolutions unless we are restricted from doing so (e.g. as a result of shareblocking).

This quarter we voted on 3,514 meetings and approximately 99.29% of all resolutions. We voted on 1,025 ESG-related shareholder resolutions, voting with management on 653.

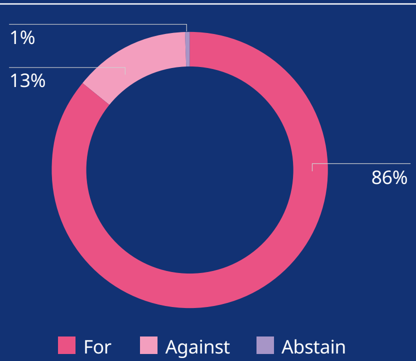
The charts below provide a breakdown of our voting activity from this quarter. Our UK voting decisions are all available on our website at [http://www.schroders.com/en/about-us/corporate-responsibility/sustainability/influence/](http://www.schroders.com/en/about-us/corporate-responsibility/sustainability/influence/).

## Company meetings voted


| | |
|---|---|
| UK | 14% |
| North America | 21% |
| Asia Pacific | 29% |
| Europe (ex-UK) | 28% |
| Middle East and Africa | 2% |
| Latin America | 6% |

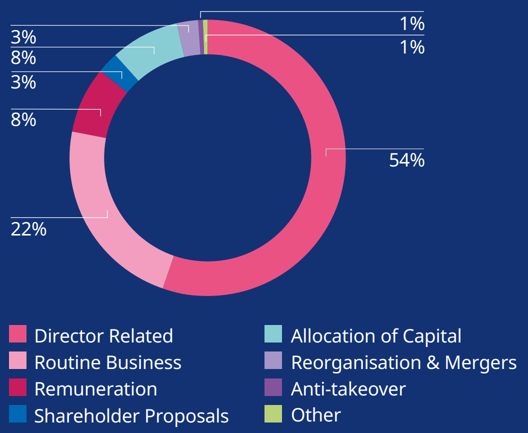
Source: Schroders as at 30 June 2019

## Direction of votes this quarter




Source: Schroders as at 30 June 2019

## Reasons for votes against this quarter




Source: Schroders as at 30 June 2019

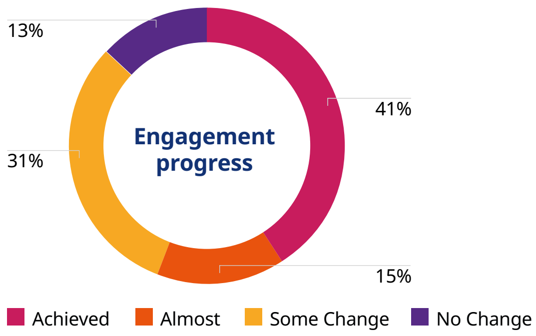
# Second quarter 2019

## Engagement progress

This section reviews any progress on suggestions for change we made a year ago, in this case the second quarter of 2018. There are four possible results: 'Achieved', 'Almost', 'Some Change' and 'No Change'. Of a total number of 39 'change facilitation' requests made, we recorded 16 as Achieved, 6 as Almost, 12 as Some Change, and 5 as No Change.

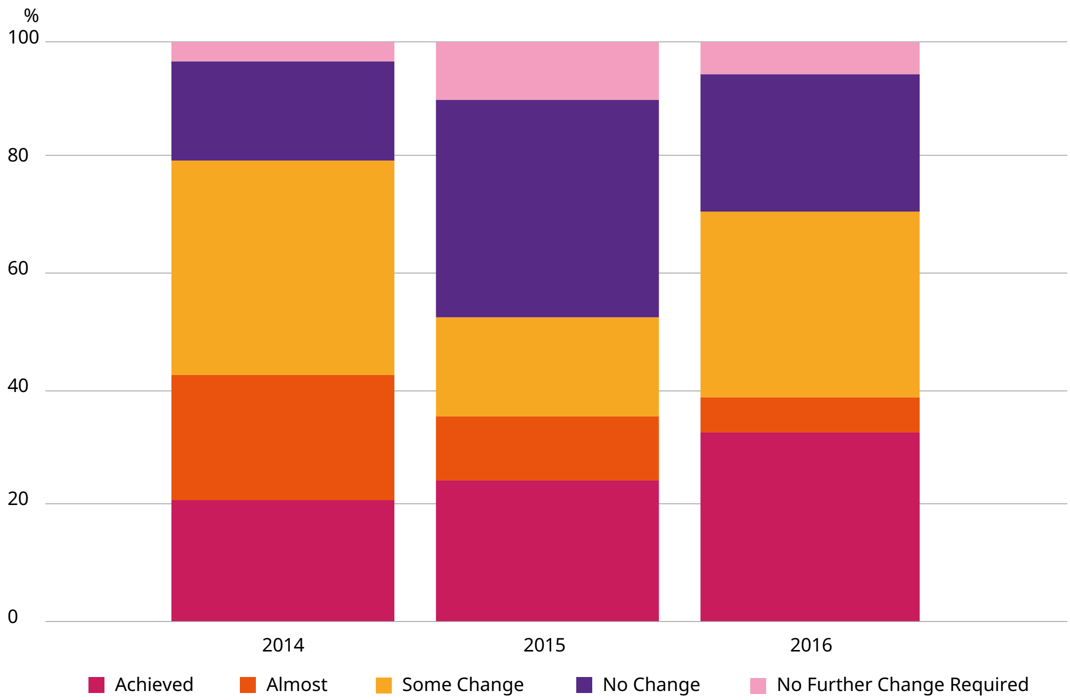
In our experience it takes an average of 2 years for companies to effect the change requested.

The chart below shows the effectiveness of our engagement over a five-year period. We recognise that any changes we have requested will take time to be implemented into a company's business process. We therefore usually review requests for change 12 months after they have been made, and also review progress at a later date. This explains why there is a higher proportion of engagement successes from previous years.




Source: Schroders as at 30 June 2019.

### Effectiveness of requests for change - 3 year period




Source: Schroders as at 30 June 2019.

EST. 1804

**Schroder Investment Management Limited**
**1 London Wall Place, London EC2Y 5AU, United Kingdom**
**T +44 (0) 20 7658 6000**

**schroders.com**
**@schroders**