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Biodiversity loss: recognising economic and climate threats

Survey of investor attitudes to ESG

Contents

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01 Introduction

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Biodiversity loss is likely to move centre-stage within ESG (environmental, social and governance) investment in coming years, provided that we can develop tools and frameworks to manage it. The challenge is to understand the asymmetric risk posed by biodiversity loss, its socio-economic consequences and the implications for financial markets and investing.

This will have implications for all three ESG pillars. Yet the very complexity and subtlety of biodiversity – and, in some senses, its invisibility until all potentially goes wrong – means that it may get less attention than issues such as climate change. In turn, this may imply that biodiversity receives less investor attention than it deserves. As a result, when investors start to focus more on biodiversity they may find a wide range of investment opportunities.

While biodiversity may still be a less understood topic, ESG in general has become more and more important in the investment landscape in recent years. Governmental and multilateral initiatives have been accompanied by a rapid rise in investor interest in ESG. But knowledge about ESG investors' priorities, beliefs and concerns has been incomplete because of the lack of direct insights about how investors regard ESG and, in particular biodiversity, in relation to their investments. This will have implications for future biodiversity initiatives and consequences for investing to counter biodiversity loss.

To understand investor priorities in more depth, we have asked our clients – both individuals and businesses – about their views concerning the desirability of ESG investment in general, its place in a portfolio and what aspects of its three environmental, social and governance pillars they thought were the most important. In particular, we looked at their attitudes to biodiversity within ESG. The results of this major survey suggest considerable existing investor appreciation of the risks posed by biodiversity loss for our future well-being, but also room to move it further up the investment agenda.

Biodiversity loss and ESG investor attitudes

- Biodiversity loss will likely become central to ESG investing but the risks it poses may still get less attention than they deserve.
- Improving knowledge about investors' attitudes to biodiversity loss is therefore very important, particularly in the context of overall ESG investment. Investors could play a major role in future biodiversity initiatives.
- Our survey asked clients (both individuals and businesses) about biodiversity, their ESG beliefs and priorities, and investment approaches.

02 Executive summary

ESG has become more and more important in investment decision-making. Biodiversity underpins many environmental, social and governance systems and biodiversity loss is therefore likely to be an increasing focus of public and investor concern. We have therefore conducted a major survey of 2,130 of our clients to better understand existing investor attitudes to biodiversity within the context of ESG investment. This report summarises the results of this survey. Six key conclusions are given below.

A Positive attitude to ESG in portfolios

- Over 75% of respondents slightly or strongly agree that investments should have a positive impact to the world.
- 17% of respondents strongly agree that investing based on ESG factors can help to manage risk in a portfolio. A further 34% slightly agree to this statement, with 25% neither agreeing nor disagreeing.
- 47% of respondents regard environmental ("E") issues are more important to them than social ("S") and governance ("G") concerns.

B Biodiversity seen as less important than climate change

- Within environmental issues, climate change was seen by 46% of investors as the most important factor affecting risk around investment decisions. Around 37% see ocean and land degradation as equally important, but only 11% put biodiversity in the top spot.

C Women more open to ESG, with different priorities

- More women than men strongly agree that their investments should have a positive impact on the world (53% of women vs. 40% of men).
- Women are more concerned about the social ("S") pillar of ESG than men (31% regard it as the most important vs. 25% for men).

D Millennials also focus on social issues

- Some 47% of Millennials see the environmental ("E") pillar as the most important, very close to the overall sample response.
- But the social ("S") pillar seems to be more important for Millennials than the overall population (35% vs. 26% in the general sample).

E Small and medium-sized enterprises may face ESG adoption challenge

- SME investors put more emphasis on governance ("G") than the overall sample.
- Only 26% of companies strongly agree that they have a dedicated ESG strategy with just 23% strongly agreeing that they factor biodiversity into their strategy.

F More education needed on ESG and biodiversity

- Only 2% of overall respondents see themselves as sophisticated ESG investors while almost two thirds regard themselves as unfamiliar with ESG, or have not heard about ESG.

03 The importance of biodiversity

Biodiversity is part of our DNA because it underpins basic human needs such as food and medicine. Ecosystems maintain natural mechanisms such as oxygen supply, pollination, pest control, climate regulation and water purification that sustain the world we live in and make economic prosperity possible. Greater awareness of the importance of protecting ourselves and the planet is putting increased significance on the role of ESG investment. ESG is being increasingly seen as an essential component of risk management (through providing another way to understand a company's qualities) and as providing a key set of criteria to help with decision making – be it by governments or personal investors. ESG is ultimately a framework we can use to assess and structure ideas, discussions and actions.

ESG provides an additional dimension, uncovering a much more holistic picture of the implications of our investment decisions. Understanding the sustainability and societal impact of an investment in a company helps to foster a broader understanding of our complex world. Interest in ESG has also been fuelled by new regulations across the world which aim to embed sustainability in the political agenda. But regarding biodiversity, there are no regulations yet in place, even if some governments have already put in place protective measures as the "30x30" campaign.[1] The UN Convention on Biological Diversity (taking place in October 11-24, 2021, in Kunming, China) could not only facilitate dialogue, but also provide new objectives for the conservation and the sustainable use of biological diversity.

Investor attitudes are crucial. Our biodiversity survey attempts to put biodiversity in an ESG investment context, providing a platform for discussion and helping us to understand which ESG issues matter most to investors, how much investors know about ESG investing, and the implications for the planet, the economy, and their portfolios. In addition to private investors, we also look at small and medium-sized enterprises (SMEs) and consider the role of age and gender in ESG investing.

Biodiversity is obviously part of the environmental ("E") pillar of ESG investing. Biodiversity is a term used to describe the richness and variety of life on earth (i.e. the biosphere), that includes plants, animals and microorganism species – and their habitats and communities. Nature ensures our well-being, in both social and economic terms. It is estimated that around USD125-140 trillion of economic value generated each year is in some way dependent on nature – and half of global GDP is heavily or moderately dependent on nature.[2]

But biodiversity also has relevance for the social ("S") and governance ("G") pillars of ESG. Biodiversity (and environmental issues more broadly) must play a role in social ("S") debates around consumer rights, product safety, worker rights and social inclusion, among others. Moreover, the right set of governance ("G") principles and frameworks can play an active role in preservation/conservation and improving.

Biodiversity loss will have a serious economic impact. According to a study by the WWF, a total cumulative loss of USD10 trillion in global GDP is estimated by 2050 unless humanity reverses the destruction of nature – which is of a similar order of magnitude as the estimated USD7.9 trillion costs of climate change over the same time horizon.[3, 4] Protecting and restoring nature should be a priority.

Biodiversity loss may exacerbate ocean depletion and land degradation, and accelerate climate change. Broken ecosystems can also disrupt food and supply chains with severed economic consequences for coastal cities, fisheries, agriculturists, etc.[5] The World Economic Forum reckons it will be one of the top five risks by 2030 with implications for widening inequalities, economic fragilities, societal fragmentation, and natural resource crises.[6]

Biodiversity loss will therefore have implications for our ability to reach multiple UN sustainable development goals (SDGs) – way beyond conserving our oceans and marine life (SDG 14) and protecting our terrestrial ecosystems (SDG 15). Biodiversity also has implications for mitigating climate change (SDG 13), providing sufficient food (SDG 2) and accounting for sustainable cities or communities (SDG 11) by using state of the art technology and innovation (SDG 9).

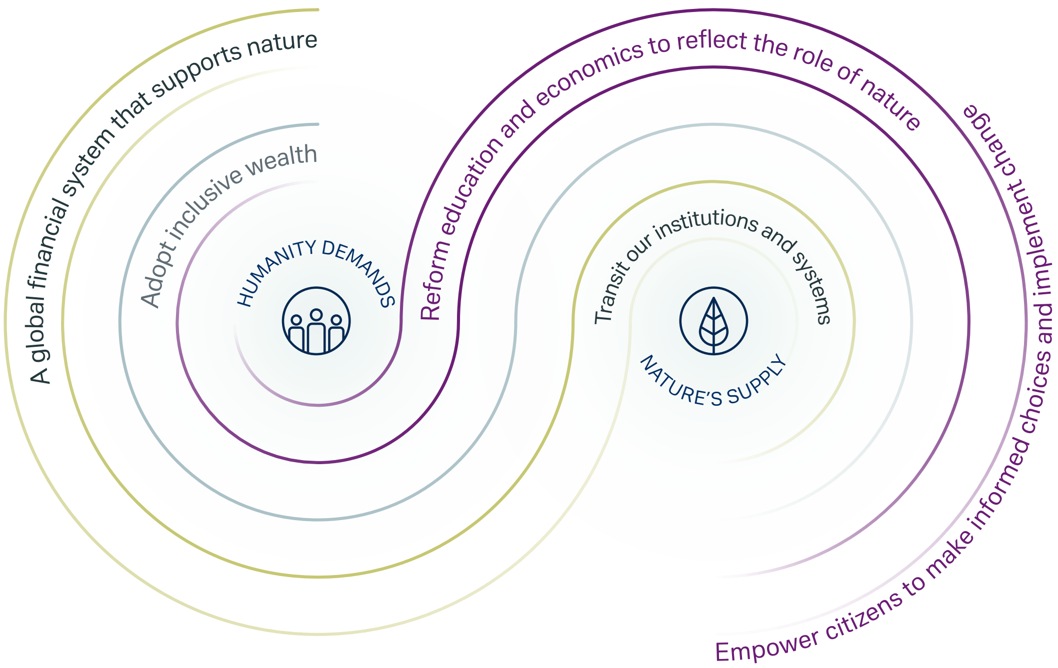
Due to their interconnectedness, it is also not possible to assess climate change without thinking about the loss of biodiversity, as one of the main reasons for both effects is that our climate is changing ten times faster than nature's climate system tends to change.[7]

For businesses, many economic, social and environmental pressures have been revealed by the COVID-19 pandemic and are now much more in focus than in the past. Governments are also aware of the importance of biodiversity but need to balance progress here with social cohesion and likely economic costs. A collaborative approach may be necessary, buttressed by multilateral agreements and assisted by technology and better data availability and use.

Ultimately, as Figure 1 shows, we have to match humanity's demands with nature's supply. Investment decisions will help us to do this.

Figure 1: Enabling and creating environment

Source: Dasgupta Review, Deutsche Bank AG. Data as of April 23, 2021.



Biodiversity loss will have multiple implications for environmental, social and governance issues. A global regulatory framework does not exist but technology, data and a collaborative approach may provide a way forward.

04 Digging deeper: the survey results

In March 2021, we conducted a major survey of our clients, with the aim of understanding which ESG issues matter most to investors, how much investors know about biodiversity, and the implications for the planet, the economy, and portfolios. Within the overall data set, we also wanted to establish the attitudes of small and medium-sized enterprises (SMEs) and also to shed some light on the role of age as well as gender in relation to ESG. The results therefore provide a detailed look at investor attitudes and awareness towards ESG and biodiversity in particular. They should provide useful insights for business leaders, companies, investors, asset managers, and sustainability professionals.

We had 2,130 valid responses from existing Deutsche Bank clients (International Private Bank) across ten countries/regions (Belgium, Germany, Hong Kong, India, Italy, Singapore, Spain, Switzerland, UK, and the U.S.). Responses were from private as well as business clients. A re-weighting of the responses was used to reduce the unit non-response bias (i.e. incomplete responses to questions) as well as the sampling bias (e.g. under-represented groups) in order to achieve a cross-country comparative perspective.

In terms of the age distribution, 90% of respondents were over 40 years old. Millennials (born between 1981 and 1996, also known as “Generation Y”) accounted for 9%.

Men accounted for 73% of total responses, but a rather lower 65% in the Millennials grouping.

Focusing on Millennials is important as they are expected to hold five times as much wealth as they do today by 2030 – controlling as much as USD20 trillion of assets globally.[8] Millennials are also becoming increasingly important in terms of their population share meaning that they are increasingly influencing the political agenda in a number of ways, and account for some heads of government. As a result, Millennials now (like older generations in previous periods) may have the capability to force an ESG revolution through more active and impactful involvement in their investments.[9] We discuss about our findings regarding Millennials on page 9.

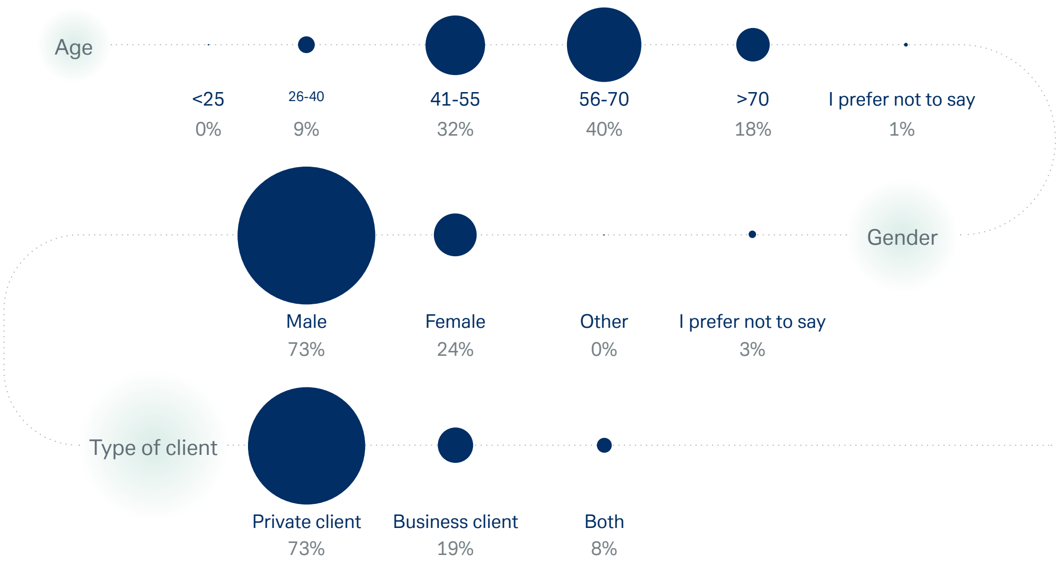
As noted above, we had responses from both private (73% of the total) and business clients (19%), while 8% identified as both. Some 80% of business clients were from small and medium-sized enterprises (SMEs), with 6% from recent start-ups.

Further descriptive statistics as well as the survey sample composition can be found in Figure 2.

We wanted to understand investors' ESG priorities and their biodiversity awareness. With 2,130 survey responses, we could also investigate private and business attitudes, as well as gender and age-related differences of view.

Figure 2: Client profile

Source: Deutsche Bank AG. Data as of April 20, 2021.



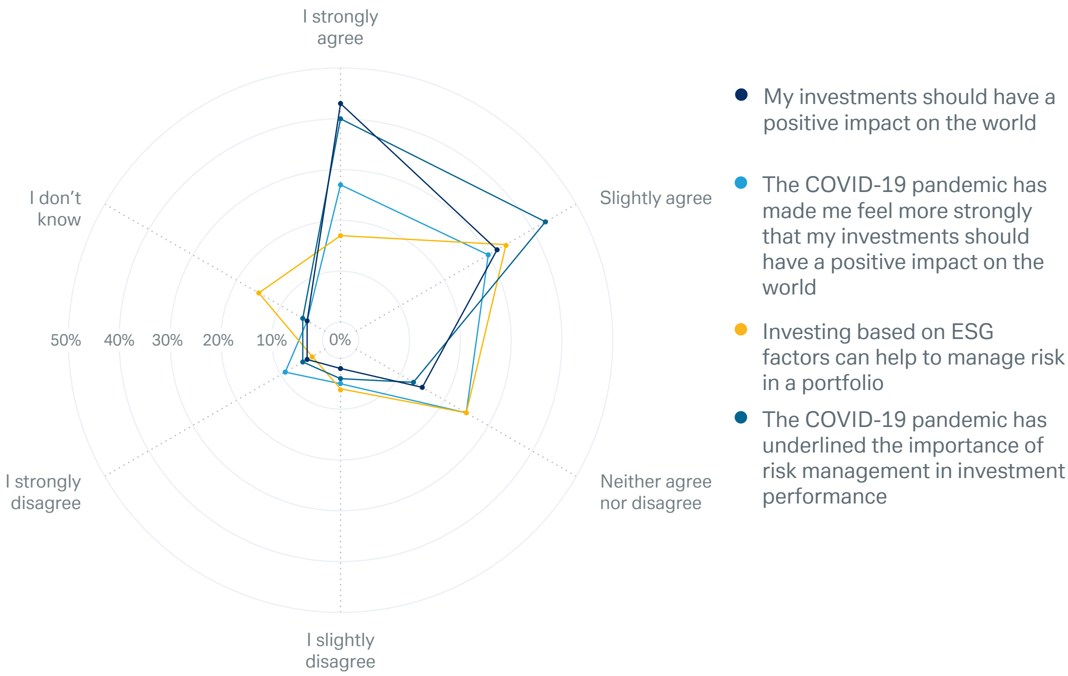
Client aims and investment expectations

Over 75% of respondents slightly or strongly agree that investments should have a positive impact to the world as shown in Figure 3.

As can also be seen in Figure 3, the ongoing COVID-19 pandemic appears to have reinforced this belief. 57% of respondents slightly or strongly agree that the pandemic has made them feel more strongly that their investments should have a positive impact.

Figure 3: Clients' overall views on ESG investing

Source: Deutsche Bank AG. Data as of April 20, 2021.



Just over half of respondents (51%) slightly or strongly agree that ESG factors could help manage risk in a portfolio. Some 74% of respondents slightly or strongly agree on the importance of risk management in investment performance.

ESG investment does not seem to be associated with expectations of lower returns. More than 80% of respondents agree that they should have higher or at least equal returns when using investment decisions based on ESG criteria. This response is supported by academic publications. A meta-study by NYU Stern, covering more than 1,000 individual studies in the period between 2015 and 2020, shows in 58% of the cases a positive relationship between ESG and financial performance.[10] For investment studies typically focused on risk-adjusted attributes, such as alpha or the Sharpe Ratio, on a portfolio of stocks, 59% showed similar or better performance relative to conventional investments. They also find positive results when reviewing climate change, low carbon, or studies related to financial performance.

Attitudes will of course be affected by investor: 51% of the respondents want to grow their wealth moderately (i.e. achieve returns above regular interest rates) and can accept moderate levels of volatility, while more than a third want to achieve a secure and protected investment.

The most common investment vehicles to achieve the desired ESG investment goals are as follows (excluding responses with no opinion and with multiple answers possible): mutual funds (48%), listed equities (26%), and ETFs (24%). Alternative investments make up the smallest share with 15%, but within this category project financing (55%) and private equity (42%) stand out.

Biodiversity and the different layers of the "E" pillar

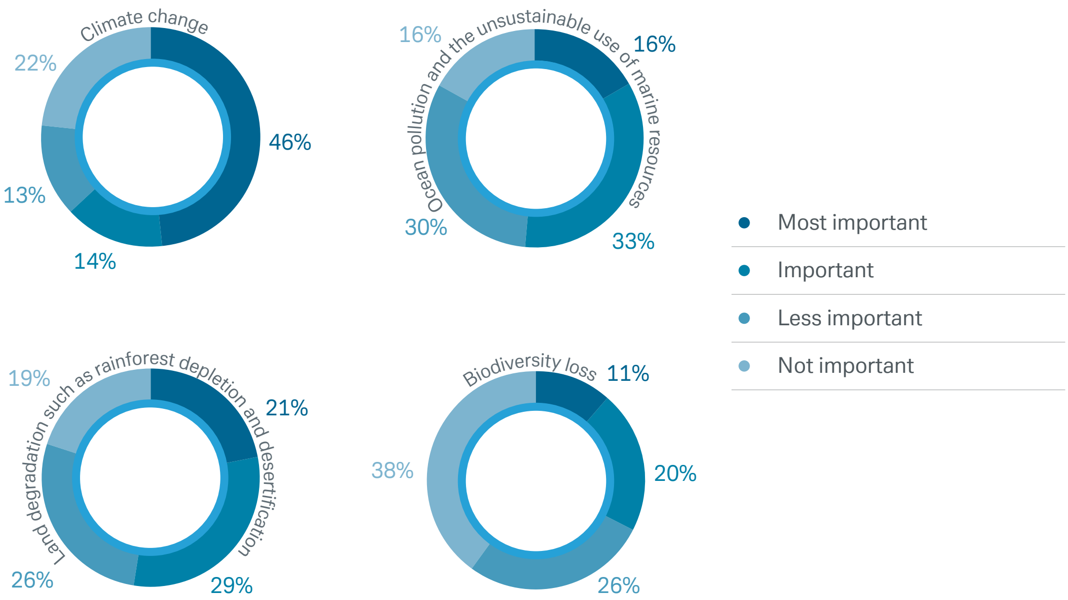
The "E" pillar is the focus of many investors' attention. Some 47% of respondents regard the "E" pillar as the most important to them personally (with smaller shares for "S" and "G" pillars). Out of all respondents, 46% believe all environmental issues are already negatively impacting the global economy – although, at the other end of the spectrum, 3% do not believe in a severe negative impact on the global economy stemming from climate change or biodiversity loss.

Within the "E" pillar, climate change is regarded as the most important factor in investment decision making (46% of respondents). Approximately 37% see ocean and land degradation (taken together) as most important but biodiversity lags some way behind this at 11% (see Figure 4).

This point about the interconnectedness of the "E" pillar components can be extended to the links between the "E", "S" and "G" pillars. This may argue for a stakeholder approach, where businesses weigh up the impact on various stakeholder groups and how each influences and reinforces company success. ESG metrics can be used to measure and evaluate company performance (including over the short term), but also to create a long-term strategic vision.[11]

Figure 4: Understanding different layers of the "E" pillar

Source: Deutsche Bank AG. Data as of April 20, 2021.



Note: Difference to 100% = no opinion.

Women and Millennials as driving forces

One question that we wanted to address with the survey has the perceived “gender gap” in sustainability investment between men and women. Studies have already suggested that men are less likely to engage in environmentally friendly behaviours than their female counterparts.[12] Our survey results do indeed suggest that women in general are more concerned about the impact of their investments on the world than men (see Figure 5).

In particular, the survey shows that women are significantly more likely than men to desire a positive impact on the world from their investments (53% of women strong agreed with this vs. 40% for men).

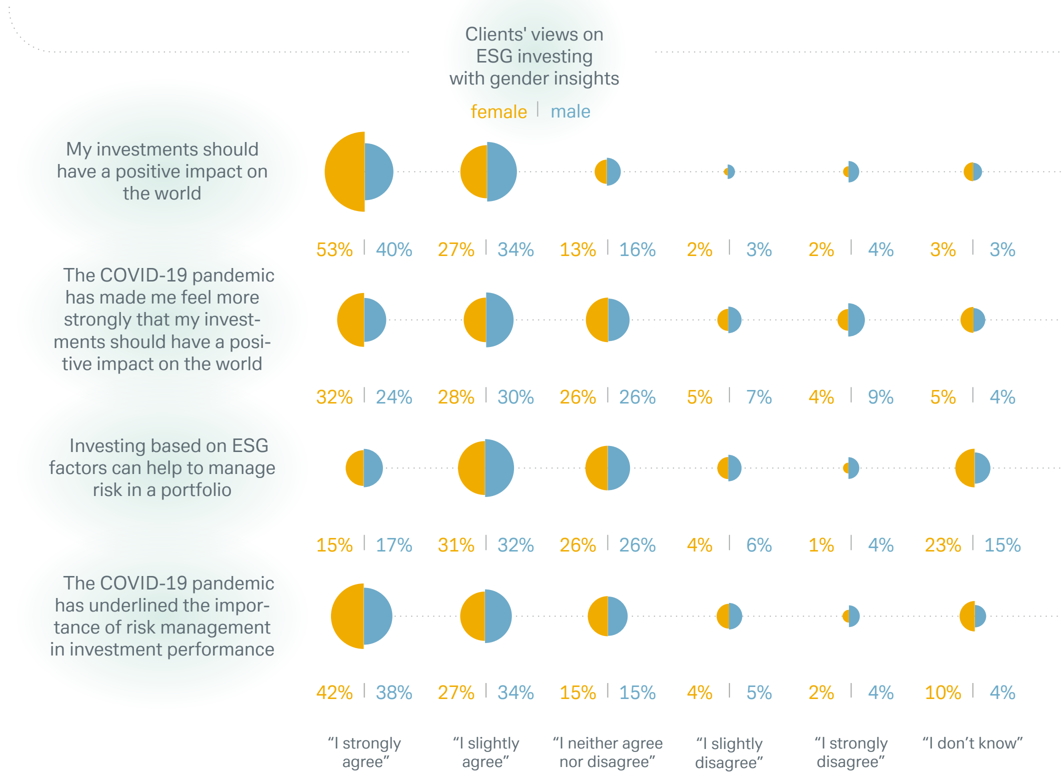
According to our survey, women put a similar priority on the environmental (“E”) pillar of ESG than men. One factor to bear in mind, however, when considering environmental initiatives (in addition to investor attitudes) is that women and men may be differently affected by specific environmental issues, particularly in parts of some emerging market economies.[13] To ensure that measures to improve access to and use of ecosystem services can benefit all genders an understanding of these differences should be considered.

However, women feel stronger about the social (“S”) pillar of ESG than men (31% vs. 25% regard it as most important, respectively). This could well be related to the global working environment, where women carry out an overall average of 60% more unpaid work than men.[14] Companies and investors are focusing more on diversity, with policies related to equal pay, equal opportunities and corporate culture are also being scrutinized more closely to enable gender equality. At the top end, according to one study, the number of top female executives is likely to more than double by the end of the decade – women currently only make up about 6% of U.S. company CEOs.[15]

With the "E" pillar, the results for men show more bias towards climate change as a risk factor. Conversely, women put more emphasis on biodiversity as a risk factor.

Figure 5: Gender insights

Source: Deutsche Bank AG. Data as of April 20, 2021.



Looking at the demographic breakdown, the "S" pillar is particularly important for Millennials (35% vs. 26% for the whole population) as provided in Figure 6. This is linked to the fact that one third of the Millennials sample is made up of women, a higher proportion than the overall sample. More Millennials (49%), however, rank environmental threats as posing the most risk to the global economy.

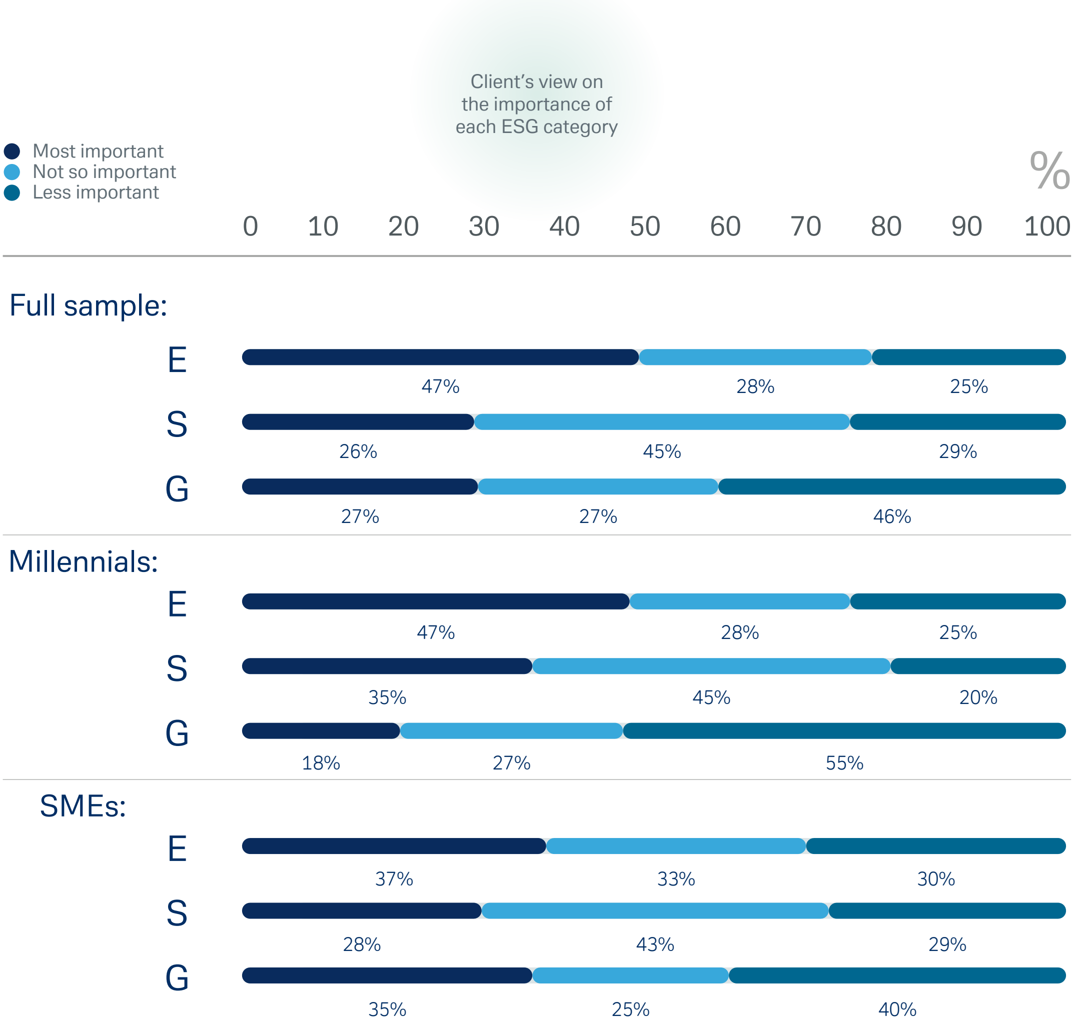
Interestingly, Millennials favour rather different investment vehicles to achieve their ESG investing goals. They are more open to using alternative investments (particularly project finance) and are interested in structured notes or green bonds. Social media is a preferred method for acquiring sustainability information than the overall sample, as would be expected for the generation group.

Millennials are twice as likely to accept high levels of volatility to increase their wealth. This is understandable: due to their longer investment horizon (as they are further away from retirement) and because most of their capital is human capital in terms of their future work output (and earnings), their current focus is therefore on growth. When using age as a control measurement, Millennials actually seem to have similar risk appetites as their parents or grandparents.[16]

Women are significantly more likely to desire a positive outcome for the world from their investments, and have a particular focus on the "S" pillar. Millennials (both sexes) keep the "E" pillar as their priority but favour rather different investment vehicles to pursue their investment objectives.

Figure 6: Millennials and SME insights

Source: Deutsche Bank AG. Data as of April 20, 2021.



Note: The comparison between different groups is made using different weighting techniques. The results may vary slightly but do not produce any significant change.

SME and the sustainability agenda

Small and medium-sized enterprises (SME) account for approximately 99% of all enterprises and two-thirds of employment across the OECD area and are hence core to economic growth.[17] Typically, smaller, family-run companies are sensitive to how their business is governed because this can have a larger effect on company performance relative to a large firm where more factors and resources are taken into account. This general trend is confirmed by our sample results summarised in Figure 6. SME respondents give the "G" pillar a slightly higher than average (35% vs. 27% for the entire sample).

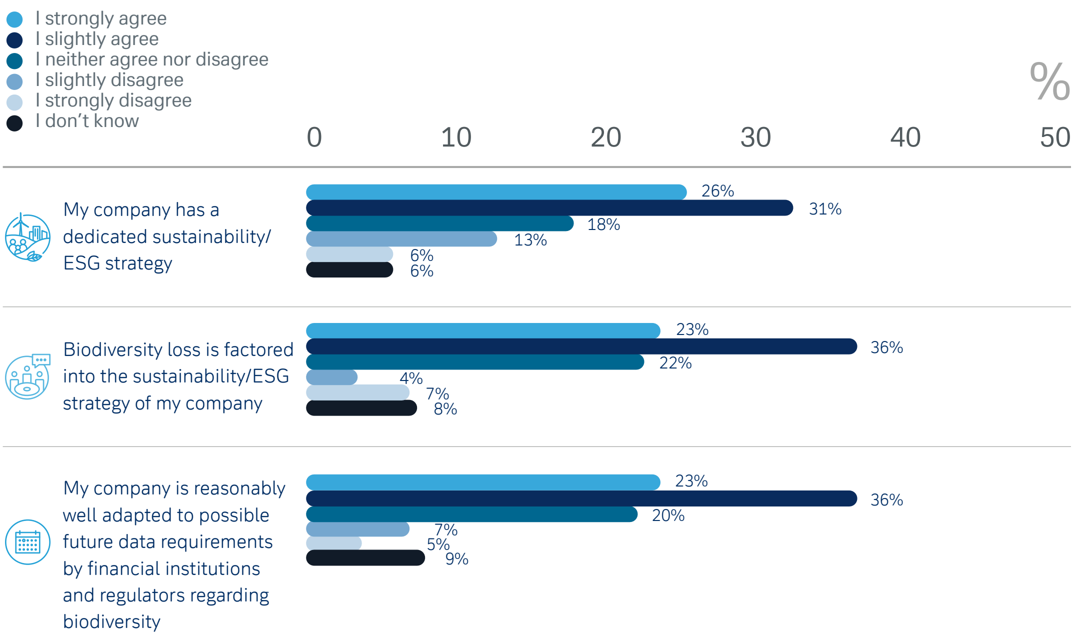
SME respondents, like the overall sample, regard the environment as the most important ESG pillar. But they are less sensitive to biodiversity in terms of factoring it into investment decisions, meaning that a larger share (54%) see climate change as the main issue relative to the respondents overall (46%).

The survey also reveals in Figure 7, that only 26% of SMEs have a dedicated ESG strategy and 23% factor in biodiversity into their strategy. Only 23% are confident regarding the future regulatory ESG requirements, something that will come into sharp focus with the enhanced Non-Financial Reporting Directive, the Corporate Sustainability Reporting Directive, from the European Commission, which is expected to kick-in as of January 2026.[18] It is estimated that the number of entities required to make sustainability disclosures will increase from 11,600 to 49,000 under this directive. German SMEs fear that the EU regulations on sustainable finance could overstretch their capabilities.[19]

The survey reveals some concerns about whether companies are well positioned to possible future data requirements by financial institutions and regulators regarding biodiversity loss and its implications.

Figure 7: SME strategies

Source: Deutsche Bank AG. Data as of April 20, 2021.



ESG information and education

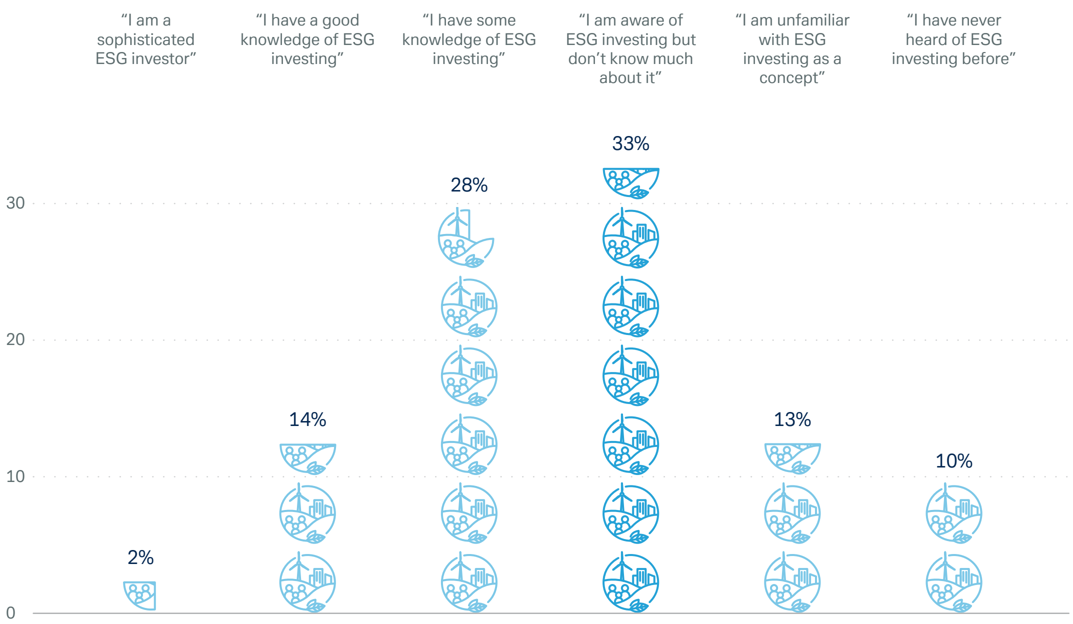
We are clearly at the start of a long journey. Our survey results show in Figure 8 that only 2% consider themselves as sophisticated ESG investors while almost two thirds are unfamiliar or have not heard about ESG. Although the majority are aware of the potential risks of ignoring ESG, many are not entirely sure how ESG can help to manage risk in a portfolio or how to best implement it within one.

ESG investor knowledge is currently obtained from a variety of sources, as our survey reveals (see Figure 9). Traditional news media are the most important category but there is clearly an important role for financial in providing information and promoting discussion e.g. through organising small group. Despite social media not being a popular option amongst our overall survey population, we believe that the emerging Millennial and later Generation Z (born 1997 onwards) population will be much more engaged on this information channel as discussed before, and financial organisations can contribute here too.

Small and medium-sized enterprises (SME) see the environment as the most important ESG pillar, and also have an above-average interest in governance issues too. Only around one quarter, however, have a dedicated sustainability/ESG strategy.

Figure 8: Education is key

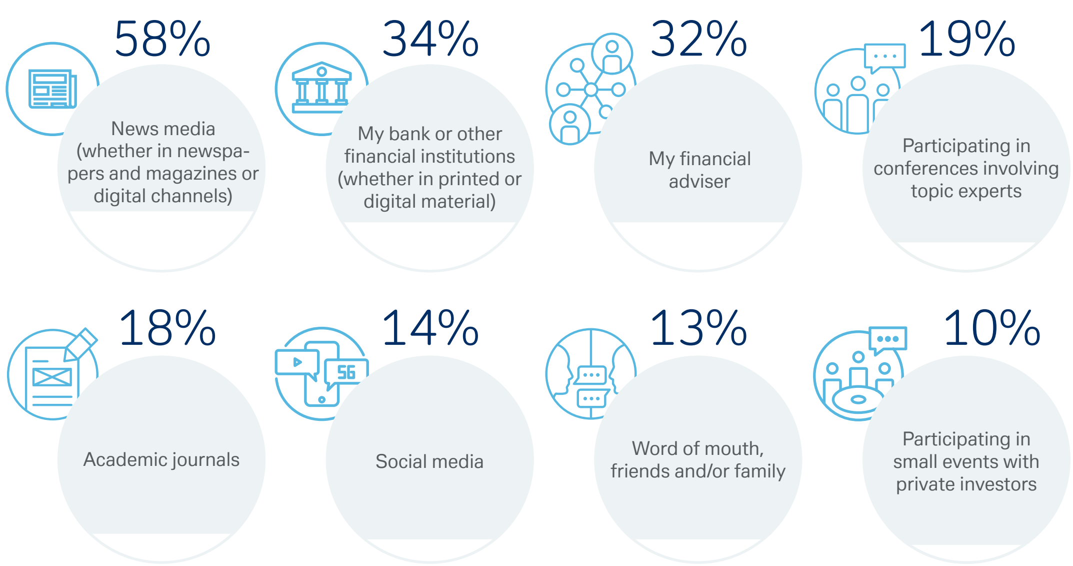
Source: Deutsche Bank AG. Data as of April 20, 2021.



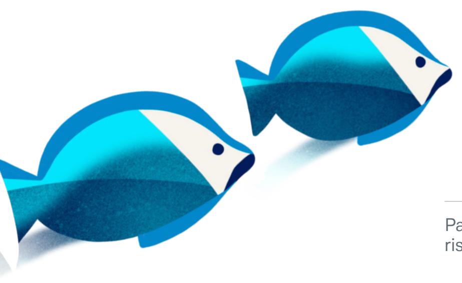
Note: Based on the question "Which of the following statements best describe your knowledge of environmental, social and governance (ESG) investing?".

Figure 9: Sources of information on ESG

Source: Deutsche Bank AG. Data as of April 20, 2021.



Note: Multiple answers per respondent possible.



05 Biodiversity: the way forward

Our survey reveals that investors are already very interested in ESG investment and want to learn more. We think that interest in biodiversity is likely to rise further, in terms of both it social and investment implications. It therefore makes sense to conclude this report by very briefly exploring possible routes to solutions on biodiversity loss. There will be many approaches to finding solutions, but probably with two main underlying themes: technology and collaboration.

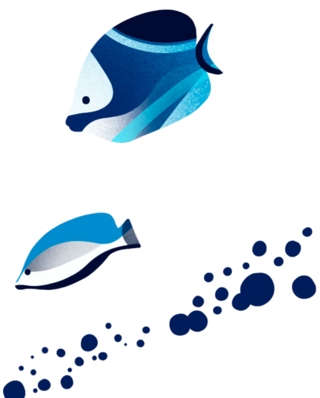
The first is increasing use of technology to build up knowledge, including through artificial intelligence (AI). As an example, the California Academy of Sciences and National Geographic Society have jointly developed an AI-based networking platform that can help conserve plants around the globe.[20] The platform allows an exchange between experts and non-experts in plant knowledge that ultimately benefits all of us. Plant identification has been an extremely cumbersome and time consuming task, but now with the use of AI the data collection and identification becomes much more efficient. It is also effective on a large scale, and can therefore be used to suggest measures in order to prevent the extinction of plants.

A related and emerging research approach is internet ecology or "iEcology". It leverages freely available data (e.g. social media imagery, closed-circuit television, and imagery collected along linear infrastructure such as Google Street View) and seeks to quantify patterns and processes in all the natural world using data accumulated in digital sources collected for other purposes.[21] It builds upon and utilizes emerging technologies, such as automated content analysis, internet of things, eco-acoustics, web scraping, and open source hardware.

The second major future theme, as these examples make clear, is collaboration. Collaborative approaches and partnerships (SDG 17) may walk better than individual initiatives, given the complexity of the subject and the way that it ranges across academic disciplines, economic sectors and geographic boundaries. One recent example of this is particularly relevant to financial institutions and investors. The University of Cambridge Institute for Sustainability Leadership (CISL) has published a Handbook for nature-related financial risks, co-created with Deutsche Bank, other financial institutions and University of Cambridge academics, which provides (financial) institutions with the means to engage and embed nature-related financial risks in our decision making by providing a framework for risk identification.[22] The CISL's Handbook is a timely pathfinder, building on the Dasgupta Review of the economics of biodiversity and in anticipation of the launch of the Taskforce for Nature-related Financial Disclosures (TNFD). The framework enables individuals from financial institutions to begin with the identification of nature-related risks in their portfolios, assets, operations and revenue streams.

This interdisciplinary collaboration brings forward a wide range of expertise and specialisations which can be used in order to analyse and ultimately preserve biodiversity. This in turn creates novel ways for partnerships between academia, financial institutions, industry, governments and NGOs. Finally, each stakeholder would be able to engage members in their networks, and as we highlighted in the previous section, try to foster education in the field of conservation which is paramount to sustainable and inclusive development going forward.

Reversing biodiversity loss will be a major challenge but the survey suggests that investors want to be engaged on this issue and can have a valuable role. As the survey confirms, most investors think that ESG considerations have an important role to play in portfolios and need not be associated with lower returns. ESG has become an essential component of the way we assess investments. But there may still be a need to make sure biodiversity sits centre stage in our discussions around ESG. We all need to recognise that biodiversity is an essential factor behind – and potential mitigator of – issues such as climate change and environmental degradation. Education and knowledge will make sure this happens, with improvements in data, taxonomy and standards encouraging further investor interest in this essential area.



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Glossary

Artificial intelligence (AI) refers to the intelligence demonstrated by machines.

Biodiversity means variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.

CISL stands for the University of Cambridge Institute for Sustainability Leadership.

ESG stands for Environment, Social, Governance, and is the acronym most commonly used for sustainable investments. They measure the sustainability and societal impact of an investment in a company or business.

Ethical investing refers to the practice of using one's ethical principles as the primary filter for the selection of securities investing.

Exchange-traded funds (ETFs), a type of investment fund and exchange-traded product, i.e. they are traded on stock exchanges.

Fat tail event is a statistical phenomenon representing a greater likelihood of extreme events occurring similar to the financial crisis.

Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period.

Governance (corporate governance) involves the processes of governing – whether undertaken by the government, firm, market, network – over a social system and whether through the laws, norms, power or language of an organized society.

Impact investing are investments made into companies, organizations and funds with the intention to generate a measurable, beneficial social or environmental impact alongside a financial return.

Millennials, also known as Generation Y, are the demographic cohort born between 1981 and 1996, following Generation X and preceding Generation Z, and tend to be more interested in sustainability of investments than older generations.

Non-governmental organisations (NGOs) are independent of government involvement and can be seen as a subgroup of founded organisations by citizens.

OECD is the Organisation for Economic Co-operation and Development is an intergovernmental economic organisation with 37 member countries, founded in 1961 to stimulate economic progress and world trade.

Small and medium-sized enterprises (SMEs) have a certain personnel number limit.

Stranded asset relates to how environment-related factors (such as climate change policy) could strand assets in different sectors due to environmental challenges, changing resource landscapes, new government regulations, evolving social norms.

Sustainable Development Goals (SDGs) were set in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030. They are a collection of 17 interlinked global goals designed to be a blueprint for achieving a better and more sustainable future for all. Sustainable Development Goal 9 is about industry, innovation and infrastructure, 13 is about climate action, 14 about life below water, 15 is about life on land and 17 is about partnerships for the goals.

The Taskforce on Nature-related Financial Disclosures (TNFD) provides a framework for corporates and financial institutions to assess, manage and report on their dependencies and impacts on nature, aiding in the appraisal of nature-related risk and the redirection of global financial flows away from nature-negative outcomes and towards nature-positive outcomes.

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