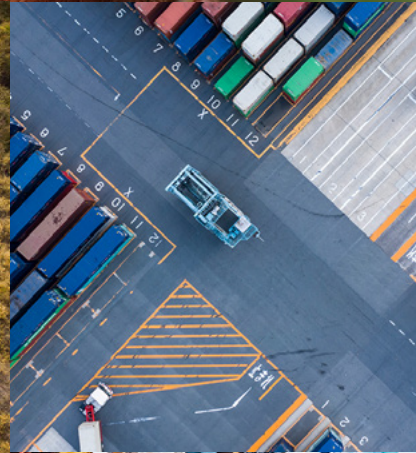


What's next for sustainable business?

 **SustainAbility** Trends 2020
an ERM Group company



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Introduction

Trends and Stories to Watch in 2020

Welcome to SustainAbility's annual trends report, in which we explore global sustainability issues and trends that will shape the business agenda in 2020.

SustainAbility has published annual trends forecasts for more than a decade but this is our first set of trends as an ERM Group company. In the last decade, the sustainable business agenda has advanced in many ways but one of the most remarkable shifts has been the growing focus on solutions — not only understanding what issues matter and why but also how the private sector can accelerate change. This year, our report not only looks at the issues and challenges but also highlights some of the most effective emerging solutions.

We are at the start of the “*decade of action*,” and with just ten years to cut emissions it is no surprise to see the environment dominate this year — from climate and biodiversity to plastics and the circular economy. Climate has long been featured in SustainAbility's Trends — the emphasis is now on how business is responding to the new reality of a changed climate.

The trends demonstrate the need for companies to identify how these issues interact and the connections between them: the role that biodiversity, especially nurturing soil and forest health, plays in reducing carbon emissions; conservation that increases climate resilience; how the circular economy — keeping materials in use — can reduce emissions and plastic pollution; and the collaboration that is needed to ensure that advances in digital technology yield positive outcomes for all stakeholders.

There is a strong focus on the role that business needs to play — through investment and collaboration — in the infrastructure for a more sustainable economy. Whether that is the infrastructure needed to create the secondary markets for a more circular economy or 5G to enable those in underserved markets to access essential products and services.



Change needs to happen deep in supply chains. Technology can play a role in enhancing transparency, enabling access and bringing sustainability into real time. But, beyond a company's direct operations — whether that is reducing emissions or identifying human rights abuses — is where the real challenge remains. The complexity of global business means if companies are not collaborating with competitors and peers, then it is unlikely they will be able to make the progress needed for a more sustainable economy.

As we move into the next decade we hope to see bolder corporate announcements that are rooted in science and address the legacy of a company's operations. Such commitments set an expectation for other companies to follow. We have ten years to transform the world — we need every company accelerating and amplifying their positive impact.



Climate Mitigation

Ten years to halve emissions



2020 marks the beginning of the climate mitigation decade. We have just ten years to halve global greenhouse gas (GHG) emissions and keep global warming to 1.5°C.

Four industries — electricity and heating, transportation, agriculture and forestry, and manufacturing and construction — remain responsible for the majority of global GHG emissions. More than [220](#) global companies have now set 100% renewable energy targets, though only a relatively small subset are from the high-emitting sectors. The world's largest polluters are the United States and China, and both are on track to considerably overshoot 1.5°C. Current trajectories put the planet on track to experience warming of at least 3–4°C this century.

“The most urgent challenge is for industry to advocate for government regulation that will support the transition to a lower carbon economic model. This will need to include an economy-wide carbon price, support for development and scaling of low-carbon technologies and regulation to phase out high-carbon activities.”

“ *Charles Allison, Partner, Energy & Climate Change Services, ERM*



2020 Forecast

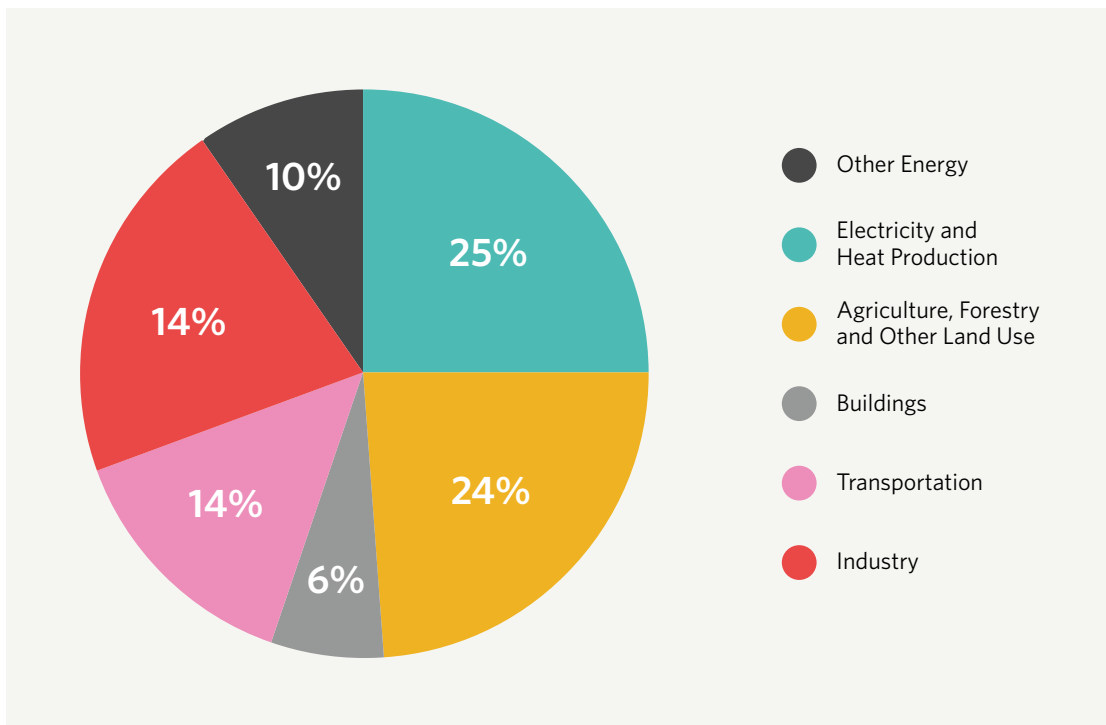
As the impacts of climate change become increasingly tangible and public concern heightens, we will likely see an escalation of citizen protests, increased employee advocacy and disruption of fossil fuel supply chains by climate activists. Both the public and private sectors will need to focus on an accelerated transition to low-carbon energy, as well as pragmatic investment in carbon capture solutions, in an attempt to mitigate the ongoing large-scale combustion of coal, oil and gas. We will see rapid acceleration in the advancement and application of low-carbon technologies, including hydrogen fuel cells, biomass, electric batteries and others. Finally, asset managers will increasingly move to divest from carbon intensive coal companies in their actively managed portfolios, in an attempt to reduce exposure to risk.

Signals to Watch

- Atmospheric concentrations of GHG emissions have *climbed* to record highs year after year following a brief plateau from 2014 to 2016 due to an economic downturn in China.
- Catastrophic fires in Australia have burnt more than *32,400 square miles*, an area more than *80 times* larger than the *2019 California wildfires*. The fires increased Australia's annual carbon dioxide emissions by 50%.
- The interrelated challenges of failure of climate mitigation and adaptation, extreme weather, and biodiversity loss are the top three *risks* to business in 2020. This is the first time in the history of the World Economic Forum's Global Risks Report that environmental concerns dominate the key risks selected by over 12,000 business leader respondents.
- The Task Force on Climate-related Financial Disclosures estimates that the low-carbon energy transition requires around *\$1 trillion* of investment each year for the foreseeable future.
- *HeidelbergCement* is the first company in the building and construction sector to commit to producing carbon-neutral concrete by 2050, alongside its science-based climate target.
- Repsol, a global oil company based in Spain, recently became the first large oil and gas company to set a goal of becoming *carbon neutral by 2050*.



- Microsoft recently announced an ambitious goal to become [carbon negative by 2030](#), without the use of offsets. The company simultaneously announced a \$1 billion Climate Innovation Fund.
- A survey of senior auto executives conducted by KPMG found they believe [hydrogen fuel cells](#) may have a better long-term future than battery electric cars, with fast refueling seen as the main competitive advantage. Executives estimate that by 2040, hydrogen fuel cell EV's will make up [23%](#) of the global auto market.
- [India and Brazil](#) have formally agreed to collaborate on accelerating bioenergy production. India is following in the footsteps of both the United States and Brazil, investing heavily in biofuel technology in order to better utilize its surplus crops.
- Coal, oil and gas received more than 5.2 trillion a year in total pre-tax and post-tax subsidies, a recent International Monetary Fund (IMF) [report](#) found. Shifting 100 billion of the annual subsidies received by fossil fuels, to investment in renewable energy, would double existing subsidies for clean energy, and help pay for a global transition to clean energy, according to the [International Institute for Sustainable Development](#).



📷 Source: Global Greenhouse Gas Emissions by Economic Sector, [IPCC](#)




Advice for Business

- 1** Commit to reducing emissions in line with the 1.5°C target and utilizing 100% renewable energy. Make sure your science-based emission reductions are at least in line with the Paris Agreement. If you are a high emitter, commit to net zero by 2050 at the latest.
- 2** Encourage suppliers and peers to set 1.5°C-aligned targets.
- 3** Consider what role your business can play in supporting and increasing carbon sequestration in the supply chain.
- 4** Advocate for government regulation and clear policies on climate and energy (e.g., carbon pricing) to give business the certainty to invest in low-carbon technologies and markets.



Nature's Biggest Carbon Sinks



Agriculture and forestry are responsible for more than **20%** of global GHG emissions. Companies, NGOs and suppliers are working together on the most cost-effective ways of reducing global emissions from this sector: planting trees, halting deforestation and improving soil health.

“To curb climate change, we must address the second-greatest source of emissions: our use of land. By taking concrete action, businesses and local leaders also can encourage national governments to more aggressively reduce carbon emissions using every resource available, including trees, grasses and soil.”



Manuel Pulgar-Vida, Head of global climate and energy practice, World Wildlife Fund (WWF)

The global livestock industry alone is responsible for around **14.5%** of global emissions. In Australia, livestock farmers are becoming carbon neutral by introducing large-scale **tree planting** to their grazing land and investing in plantation timber farming. Meanwhile, **McDonald's** has been working with WWF to reduce deforestation in the company's supply chain. Together they have worked to identify the company's highest risk commodities including beef, palm oil and soy, and partner with suppliers in at-risk regions.



Improving soil health also plays an important role in global carbon sequestration. Healthy soil is composed of microbes as well as decaying plant and animal matter. Farming techniques such as monocropping combined with the overuse of chemical fertilizers and pesticides are contributing to climate change by increasing the erosion of topsoil and killing off the microorganisms that enable soil to serve as a natural carbon sink.

Large companies are reaping both the GHG and production benefits of working with suppliers to improve soil health. Unilever's [Sustainable Agriculture Code](#) requires suppliers to work with smallholder farmers in the company's supply chain to develop climate-smart soil management strategies that increase the carbon storage of soil, improve water retention and boost agricultural productivity.

Food and agricultural companies are embracing the importance of reforestation and regenerative farming practices not only to help reverse the impacts of climate change through the natural sequestration of carbon into trees and healthy soils, but also as a way to increase the climate resiliency of agricultural supply chains. Planting trees has the benefit of reducing soil erosion during heavy rains and droughts, while improving soil health simultaneously increases water retention and drought resilience.



Battery Technology Breakthroughs

Increasing low-carbon energy across buildings and transportation is essential to reducing global emissions.

“The market is transforming itself and new low-carbon products are being rapidly introduced. Mitigation is becoming a value chain activity. Innovation and improvement regarding product design for low-carbon solutions is becoming increasingly competitive.”

“ ” *Braulio Pikman, Technical Director, Latin America, ERM*

The scaling of these technologies will rely heavily on breakthroughs in battery technology, which will allow vehicles to travel longer distances on clean energy and enable low-carbon energy storage and increased resiliency to grid disruptions for buildings.

Lithium-ion batteries are powerful enough for use in phones and laptops but have limitations in transportation and buildings. The energy density of the batteries built into cars is tiny compared with traditional fossil fuel energy, meaning their capacity cannot be increased without making them prohibitively heavy and costly.

Several major breakthroughs have been reported in battery technologies. In 2019, Australian start-up Climate Change Technologies announced a promising new [grid storage option](#), billed as the world’s first thermal battery. Meanwhile, another group of scientists have demonstrated a new kind of battery featuring a [liquid-free lithium-ion](#) which results in decreased weight and reduced temperature volatility.



Nikola Corporation, an American hybrid truck design company is also [reporting](#) a breakthrough in battery technology that will be able to increase the range of EV passenger vehicles from 300 miles (462 kilometers) up to 600 miles (965 kilometers) with minimal increase in battery weight and size.

Breakthroughs in battery technology over the next five years will enable the scaling of electrified transportation across both the commercial and public sectors. Increased storage potential and declining costs will provide opportunities to connect millions of people and businesses to decentralized sources of renewable energy, such as wind and solar, simultaneously increasing opportunities for grid resiliency in the face of increasing physical impacts from climate change.



A Changed Climate

The new normal



Climate tipping points are happening now, in some cases decades sooner than expected.

These include the rapid loss of Arctic and Antarctic ice sheets, large-scale coral reef die-off and the increase in catastrophic wildfires witnessed across Australia, North America, Latin America and Europe. Scientists [predict](#) that fires, storms, flooding and droughts will become more frequent and intense as global temperature increase climbs above 1.2°C.

“We are seeing a greater number of extreme weather events and climate “tipping points” where key systems change rapidly. To address the climate resilience gap, we need increased collaboration between the private sector, governments and investors to action solutions. We also need more up-skilling internally at companies – ensuring that functions such as enterprise risk management, corporate strategy, sustainability and research and development are communicating and driving the agenda forward.”

“ James Hubbard, Senior Consultant, ERM



2020 Forecast

With the increasing frequency of extreme weather events and a growing body of data about their impacts, companies will face mounting pressure from policy makers and investors to get serious about climate risk. This pressure will focus on climate preparedness in direct operations and across value chains. Companies will face increasing pressure from investors to conduct climate risk assessments. The high costs of upgrading essential infrastructure such as electricity grids, roads and buildings to withstand increasingly extreme weather conditions will necessitate an increase in public-private collaboration in order to meet funding gaps. Inadequate investment will place companies and governments at risk of liability and enormous damage bills.

Signals to Watch

- Investing \$1.8 trillion globally in strategic adaptation measures, including early warning systems, climate-resilient infrastructure, improved dryland agriculture and more resilient potable water resources between 2020 and 2030 could generate \$7.1 trillion in total net benefits according to the [Global Commission on Adaptation](#).
- In the wake of devastating fires in California, the state's electric utility, Pacific Gas & Electric, faces bankruptcy. The company was found liable for [\\$1.7 billion](#) in damages after it was determined that several of the deadly fires were caused by the company's aging infrastructure and inadequate vegetation management.
- United Nations Development Program estimates that over the last 30 years, one out of every three dollars spent on development has been lost to extreme climate events — a total loss of [\\$3.8 trillion](#) worldwide.
- A recent report warns that warming between 1.5–2°C will lead to a substantial increase in the proportion of [under-nourished people](#) in sub-Saharan Africa. If warming exceeds 3°C globally, virtually all of the agricultural areas across Africa could become unviable for food production.
- A major scientific [report](#) issued by 13 US federal agencies estimates that up to 10% of the country's GDP could be lost due to health, infrastructure and environmental impacts, including wildfires, crop failures, crumbling infrastructure and disrupted supply chains.



- A Nigerian bank recently issued the country's [first certified African Climate Bond](#). 80% of the bond's proceeds will be allocated to protection against rising sea levels and flood defenses for coastal communities on the outskirts of Lagos.
- The Global Commission on Adaptation has recently launched a [collaboration](#) with more than 75 governments, global companies, NGOs and foundations in order to design and implement more equitable adaptation measures around the world.

Advice for Business

- 1 Use the Task Force on Climate-related Financial Disclosures (TCFD) climate scenario analysis to assess long-term exposure to climate impacts. Integrate climate risk and opportunities into corporate strategic thinking and planning. Disclose climate preparedness and supply chain resilience.
- 2 Ensure that climate risk is effectively embedded into existing board and committee structures to enable adequate oversight of the issue.
- 3 Collaborate with stakeholders to increase the resilience of vulnerable public and private infrastructure that is essential to your business.




Climate Scenario Planning

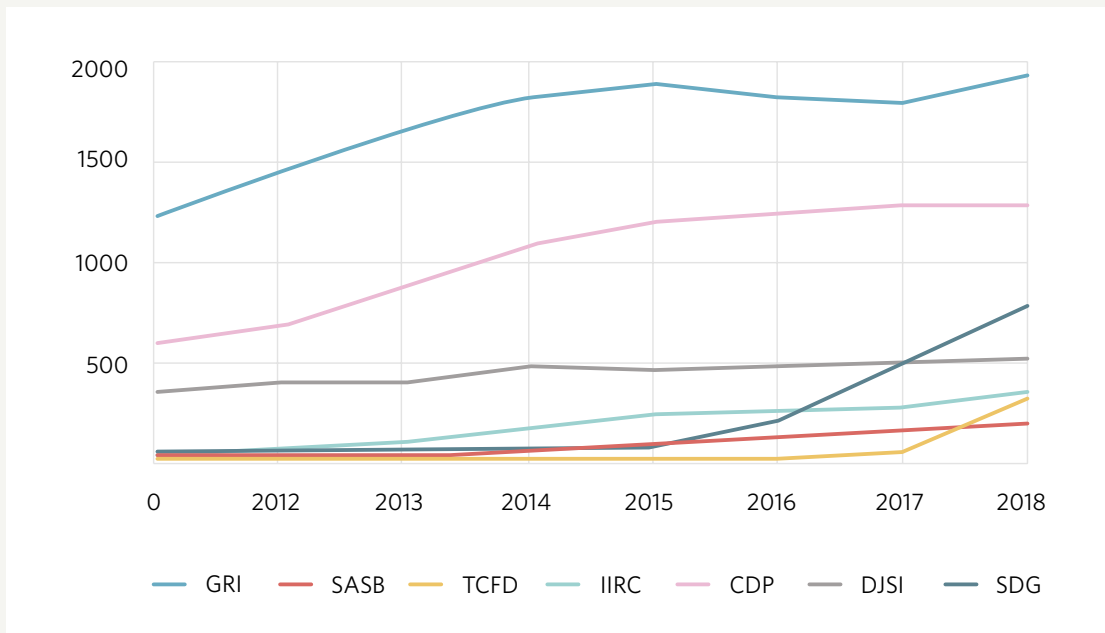


Climate change and its associated risks pose increasing challenges to companies.

“The TCFD framework helps to elevate the climate challenge to the C-Suite and helps senior management within companies understand the financial risks and opportunities of different future climate scenarios. The scenario analysis process in particular encourages organizations to evaluate their strategic resilience to a range of plausible climate futures, over timescales that are often outside of conventional business planning horizons.”

 **Charles Allison, Partner, Energy & Climate Change Services, ERM**

The Task Force on Climate-related Financial Disclosures (TCFD) considers climate scenario analysis to be the best approach for companies to assess long-term exposure to climate impacts. The TCFD advises organizations to use a range of scenarios that illuminate future exposure to both transition (those arising from the move to a lower-carbon economy, e.g. cost of complying with mandatory carbon pricing) and physical climate impacts, using established International Energy Agency (IEA) and IPCC climate model pathways.



Source: Framework and rating mentions over time - Datamaran®

More than 340 investors with nearly \$34 trillion in assets under management have committed to implementing the TCFD recommendations as part of [Climate Action 100+](#). BNP Paribas, a French international banking group and asset manager, is at the forefront of companies integrating climate scenario planning into the company’s long-term risk management strategy. BNP Paribas conducted scenarios modelling, based on EIA and IPCC data, which examined future scenarios with global temperature increases between 1.5°C and 6°C. BNP is now actively using this data to manage climate-related financial risks within its portfolios, banking and direct operations.

ArcelorMittal, a multinational steel manufacturing company, is another early TCFD adopter, publishing its first [Climate Action report](#) in 2018. As one of the world’s most used materials, the steel industry accounts for approximately [7%](#) of global emissions. Demand for steel is expected to almost double over the next 30 years as the middle class grows across countries including China, India and Nigeria. In line with TCFD recommendations, ArcelorMittal’s report details future challenges and opportunities for the steel industry, as well as technology pathways the company is exploring — from circular economy solutions to energy efficiency and carbon capture and storage — in order to reduce its emissions in line with the Paris Agreement and meet increasingly stringent regulatory requirements in Europe.

Scenario analysis is a well-established tool in corporate and investment risk assessment. Its application to climate change helps companies to evaluate strategic resilience for a range of climate futures, including the impacts of a variety of global temperature increases and regulatory changes. This positions companies to take advantage of emerging opportunities and engage in better risk management as well as more informed strategic planning, which in turn drives long-term financial success and resilience.



Value Chain Climate Resilience



Climate variations will have diverse and multiplying impacts.

“Ready or not, we are entering an age of adaptation. And we need to be smart about it. Adaptation is not a defeat, but rather a defense against what is already happening. The right investments will deliver a “triple dividend” by averting future losses, spurring economic gains through innovation, and delivering social and environmental benefits to everyone.”

“ *Kristalina Georgieva, Managing Director, International Monetary Fund (IMF)*

This includes extreme weather damaging supply chain infrastructure, heat stress on workers and agriculture, and water insecurity for local communities across corporate value chains. Companies that invest in improved infrastructure, relocate from at-risk locations and adapt products and services will be better positioned to minimize rising costs due to extreme weather and be rewarded with an improved reputation and potential sales growth from new products.

Companies that are at the vanguard of adaptation implementation are realizing the benefits of such action. Property insurance company [Travelers](#) is exploring new pricing strategies to reward adaptive approaches to climate risk minimization taken by its customers. When insurance companies anticipate and manage climate risks, they can help nudge societies away from poor planning, such as overbuilding in high-risk coastal flood zones, and towards better choices, like building more resilient infrastructure designed to withstand sea level rise.



In the wake of Hurricane Sandy in New York, local utilities provider Con Edison identified a number of essential adaption investments. In 2013, the company proposed changes to its rates in support of *\$1 billion* worth of investments in storm-hardening capital initiatives. The infrastructure strategy had two main priorities: make Con Edison's assets more resilient to climate-driven failures and reduce the time needed to restore customer service after a disaster. As a result, Con Edison has dramatically increased its flood defenses around vulnerable critical infrastructure. What began as a storm-hardening strategy has now evolved into a comprehensive Climate Change Resilience Plan developed in collaboration with New York City.

Companies who engage in meaningful collaboration with key stakeholders such as customers and regulators will be better positioned to find synergistic resilience measures and adapt to changing regulatory expectations. Early action will also help companies meet investor expectations on risk management as asset managers become increasingly focused on the risks of infrastructure damage and liability.



Circular Solutions

Building the infrastructure of the future



From food and fashion to electronics and the built environment, circular thinking — keeping resources in use for as long as possible to extract the maximum value — will continue to gain momentum in 2020.

This momentum will drive innovation and disrupt linear business models. Driven by societal and regulatory pressures including the European Commission's [Circular Economy Action Plan](#), consumer goods companies are increasingly piloting and adopting circular strategies. These include the redesign of products to require less material and energy; shifting to product-as-a-service models; setting up product take-back schemes; recovering and repurposing waste; and substituting finite materials for renewable ones. Despite a growing momentum, the world is currently only [8.6% circular](#) and nowhere near limiting global warming to 1.5°C. There is an urgent need to scale these activities and understand the interconnected nature of circular and low-carbon agendas, recognizing the largely underutilized potential of the circular economy as a pathway to a low-carbon future.



“Many of us just keep buying more stuff, responding to the pervasive belief that acquisition brings happiness and to an economic system that requires ever-increasing sales to function. A commitment to keeping products and materials in use will require us to change our thinking about acquisition.”

 *Kathleen Sellers, Technical Director, ERM*

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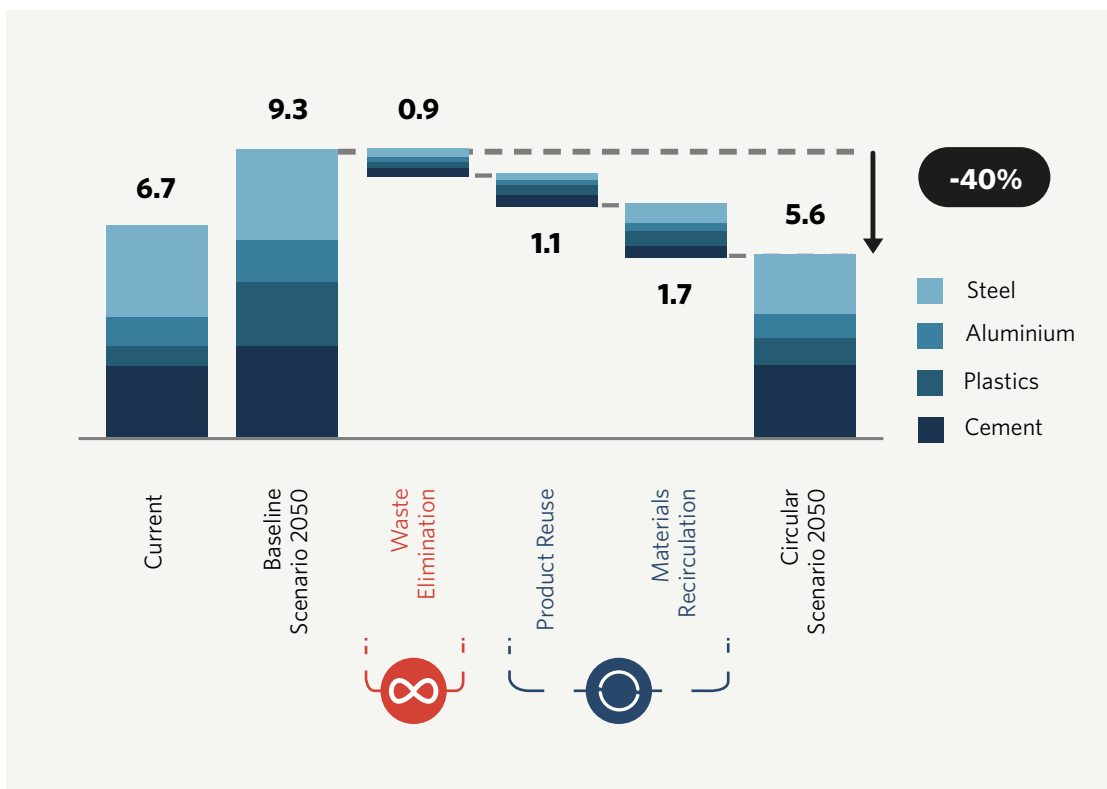
In addition to presenting a multi-trillion dollar economic opportunity, a circular economy plays a significant role in addressing other challenges of our time, notably climate change, biodiversity loss, resource scarcity, waste and pollution. The interlinkages and overlaps between climate resilience and a circular economy are becoming clearer, with a fundamental shift needed in the way the economy functions and creates value. In 2020 and beyond we expect more companies to innovate, collaborate and demonstrate the opportunities of a net-zero emissions circular economy.

Signals to Watch

- Our material resource use breached the [100 billion tons](#) mark for the first time in history. It is forecasted to rise to between 170 and 184 billion tons by 2050.
- E-commerce and easy customer returns through companies such as Amazon are driving increased waste, with [millions](#) of kilograms of products (many free from defects) ending up in a landfill each year due to the time and costs associated with repacking and assessing items for damage and resale.
- A [WRI report](#) has warned that many of today’s business models will be put at risk by an increasingly resource-constrained world.
- Companies like [Apple](#) and Starbucks are stepping up to the challenge. Starbucks recently [announced](#) a multi-decade aspiration to become a resource-positive company — storing more carbon than it emits, eliminating waste and providing more clean, freshwater than it uses.
- When implemented in sectors such as the built environment, mobility, food, electronics and textiles across Europe, India and China, a circular economy could reduce GHG emissions by [22–44%](#) by 2050 compared to the current development path.



- Increasing the reuse of products, scaling product as-a-service models and capturing the value of e-waste in China could make goods and services more affordable for citizens, make cities more liveable, reduce emissions of fine particulate matter by 50%, emissions of greenhouse gases by 23% and cut traffic congestion by 47% — [all by 2040](#).
- Research shows that a transition to a circular economy could generate [\\$4.5 trillion](#) in additional economic output by 2030.
- E-waste is worth at least [\\$62.5 billion](#) annually, which is more than the gross domestic product (GDP) of most countries. Yet, society only deals with [20%](#) of global e-waste appropriately.



📷 Source: Global CO₂ emissions from four key materials production, [Ellen MacArthur Foundation](#)



Advice for Business

- 1** Prioritize dematerialization and closed-loop systems. Collaborate within, and outside, the value chain to increase product takeback and keep materials in use.
- 2** Consider how the circular economy can help your business meet its climate targets.
- 3** Is your company considering strategies to reduce consumption? Consider what alternative models exist that can deliver value to the customer and the business.



Fashion: Repair, Resale, Recycle



Some business models are not only resource-intensive but encourage and accelerate overconsumption and disposal.

“Linear supply chains are a significant threat to the future of our planet in terms of biodiversity loss, pollution and global warming.”

“ **Michael Pooley**, *President, Commonwealth Handling Equipment Pool (CHEP) EMEA*

E-commerce is fuelling a culture of over-ordering, fast delivery and easy returns. This is only set to increase as a growing middle class in emerging markets start to embrace consumer habits. Despite this, there are positive signs that a growing number of companies are starting to think about how their production and consumption models need to evolve to be in line with planetary boundaries.

The Ellen MacArthur Foundation *estimates* that the global fashion industry loses \$100 billion each year from clothing that is landfilled or incinerated. A number of apparel companies are now exploring repair and resale business models. Eileen Fisher has *take-back and repair lines* and Nudie Jeans *repaired* 55,000 pairs of jeans in its own stores in 2018, with 32 repair shops around the world. In the UK, Ted Baker, along with luxury fashion platform Farfetch and outdoor clothing brand FW, will explore how new closed-loop business models — including resale and repair — could help reduce waste and boost profitability under the “*Circular Fashion Fast Forward*” project.

The number of apparel companies offering rental and subscription models has grown in the past year and is expected to increase in 2020, with the secondhand market expected to grow [1.5 times](#) the size of fast fashion by 2028. As younger generations recognize the inherent value in their unworn clothing, major players such as US-based thredUP and China's YCloset are leading the way, with [thredUP](#) on track to become one of the largest distributors of clothing in North America by 2020.

Global business — and the fashion industry in particular — is facing an inflection point. Those companies that are able to rethink the value chain for consumer goods and prioritize dematerialization and closed-loop systems could gain a significant advantage in the marketplace.



Collaboration for Product Takeback



Getting products back from the consumer after use to fully close the loop is a barrier to making the economy more circular.

“Bold commitments by companies with strong name recognition, to show what is possible, will be key to advancing the circular economy. We also need more alliances across the value chain to solve challenges that no one company can tackle in isolation, and increasing use of tools such as Life Cycle Assessment to understand trade-offs in the use of various materials.”

 **Kathleen Sellers, Technical Director, ERM**

Manufacturers are unable to extract and reuse raw materials without having access to old products. Achieving this will require new forms of collaboration and transaction with companies along, and even outside, the value chain.

Privately-owned recycling firm TerraCycle partners with a number of high-profile retailers and brands, including Walkers, Hovis, Ella’s Kitchen, Schwarzkopf and Gillette, to recycle hard-to-recover materials. Meanwhile in the automotive value chain, Audi and materials expert Umicore successfully *completed* the test phase of their strategic partnership to recover the cobalt and nickel from the high-voltage batteries of the Audi e-tron®, with more than 90% of materials recovered. In 2020, the partners

will jointly test a truly closed cycle for cobalt and nickel, with the recovered raw materials reused in new battery cells.

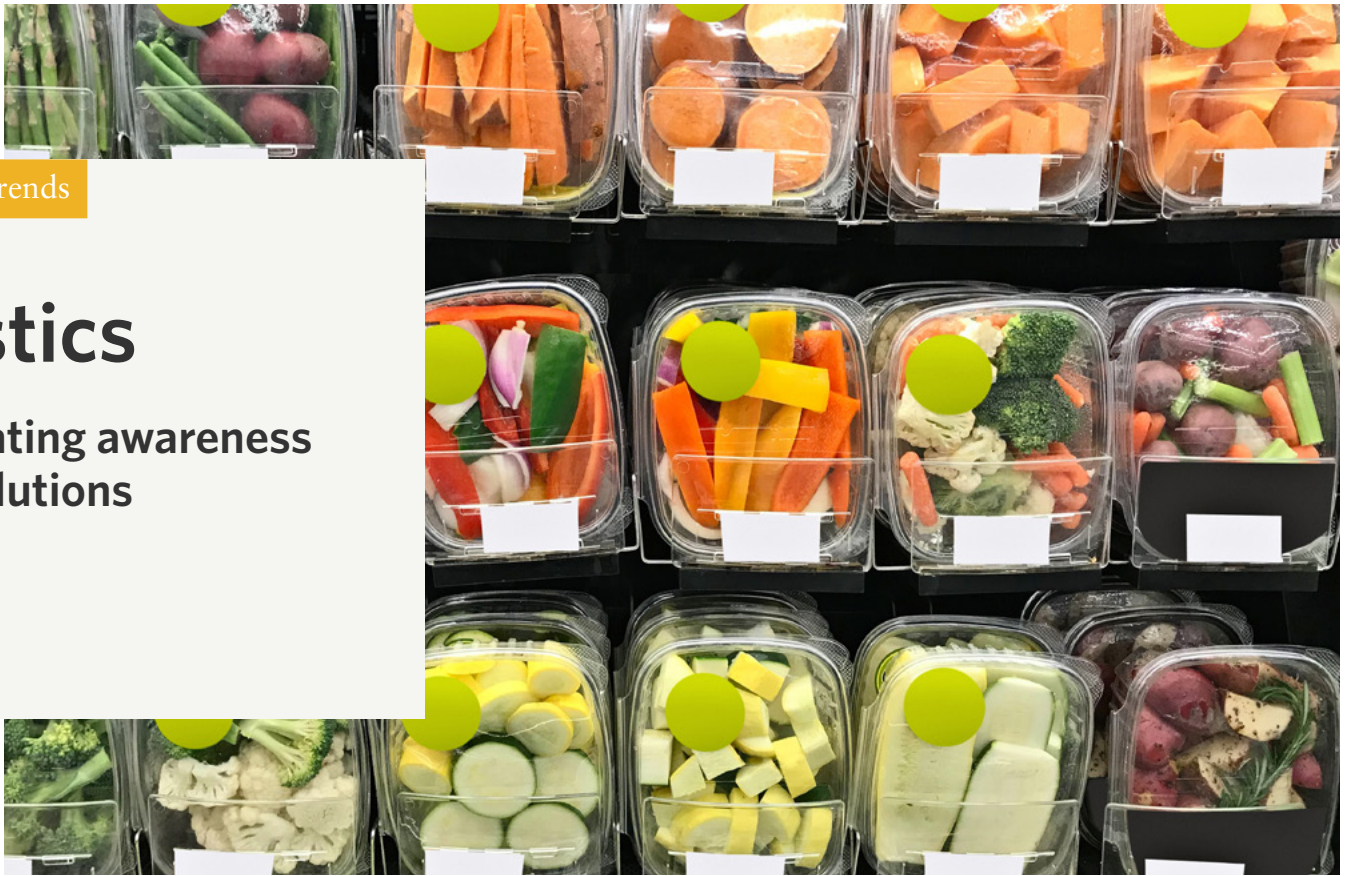
Moving beyond industry collaboration, a select number of companies are also starting to understand how their waste and expertise could benefit firms in other sectors. One example is the recent [announcement](#) from Ford and McDonald's that they would soon be collaborating to convert coffee bean skins into car parts. Elsewhere, companies are making packaging from food industry [waste streams](#) such as potatoes, shellfish and fruit.

System-level collaboration will be necessary for the circular economy, and ultimately businesses may need to rethink competitive advantage. The increasing sophistication of new technologies such as the Internet of Things and blockchain could improve the potential for such system-wide collaboration.



Plastics

Translating awareness
into solutions



Anti-plastic sentiment has clearly grown in recent years and governments are taking note.

China, one of the world's biggest users of plastic, unveiled a [momentous plan](#) to reduce single-use plastics across the country, banning plastic bags in all cities and towns in 2020. Meanwhile, Indonesia has [announced](#) plans to cut marine plastic waste by 70% within five years. While ocean plastic remains core to the narrative, the link between plastic and climate change is receiving growing attention. In response, companies have set more ambitious commitments to curb plastic waste, including Unilever's [goal](#) to halve its use of virgin plastic by 2025. Despite this, the attention given to the issue has arguably yet to translate into substantive action, with global plastic production still set to increase and our current recycling system failing to compete with a falling cost of virgin plastic.



“Each and every company has control over its own packaging portfolio and so changing packaging design to be effectively recyclable is a key intervention they can make now. Decisions like switching to recyclable material and formats, and making the right choices for labels can go a long way to ensuring that the recycling markets we do have in place today can persist and improve.”



Tristanne Davis, Senior Manager, The Sustainable Packaging Coalition, GreenBlue

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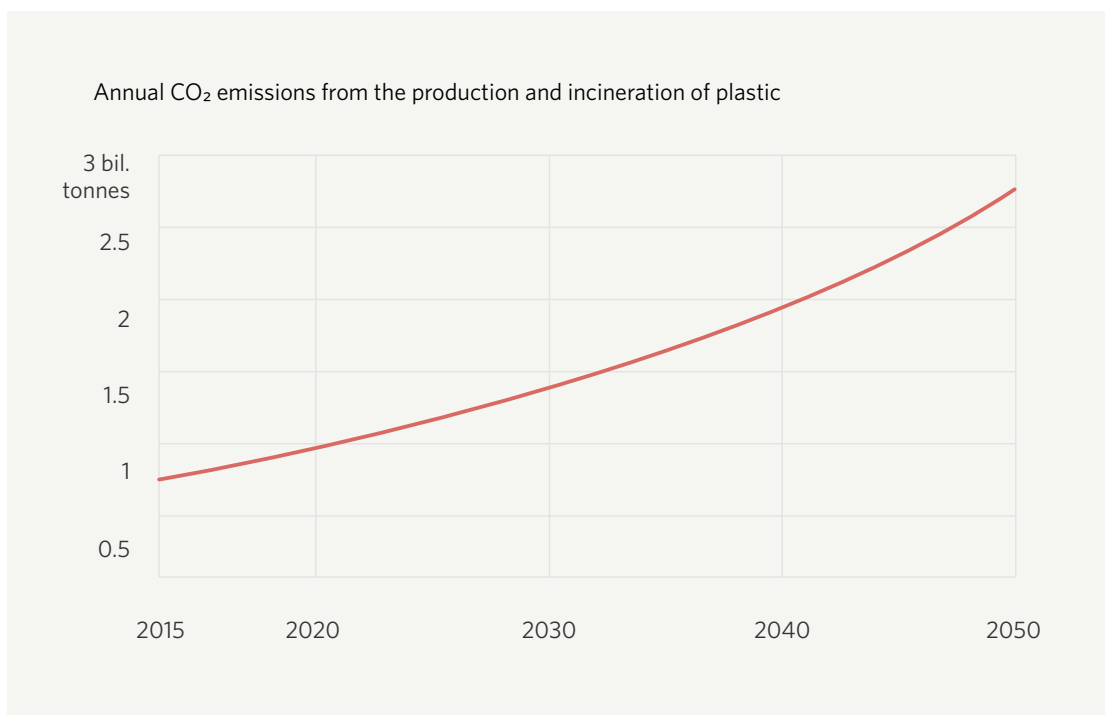
2020 will prove a pivotal year for plastic action, with renewed calls to take a more systemic approach by tackling the use of plastic and its replacement with sustainable options as opposed to an overreliance on recycling. With a number of national bans and regulations due to come into effect in 2020 and an increased emphasis on producer responsibility, particularly in Europe, companies will come under increased pressure to put into action robust plans to achieve their plastic commitments and invest the necessary resources into implementing those plans.

Signals to Watch

- After China banned plastic imports in 2018, Malaysia became the top destination for plastic waste from developed nations. In response, Malaysia sent back almost [4,000 tons](#) — or 150 shipping containers — of waste back to its original owners last year.
- With oil use in cars expected to peak in the mid-2020s, oil companies like Saudi Aramco are [investing](#) billions in plastics, where demand is still strong, and plastic production is expected to [double](#) in the next 20 years.
- In 2019 the lifecycle of global plastic production — from extraction to disposal — was [equivalent](#) to the impact on the climate of 189 five-hundred-megawatt coal-fired power stations. By 2050, the global plastic footprint will be equivalent to 615 coal plants running at full capacity.



- Last year saw the [price](#) of virgin plastic resin sink, at first to parity with virgin prices, and then below. This trend is driven both by the demand to include recycled plastics in new products and the fact that virgin plastic is becoming cheaper to make due to increased petrochemicals production from the US driven by the shale gas boom.
- Current recycling infrastructure cannot deliver sufficient resin for companies to hit their increasingly ambitious recycled content goals. For example, if beverage companies were to make all bottles with just [25%](#) recycled content, 27 new recycled PET processing plants would be needed by 2030. With increased investment, McKinsey [estimates](#) recycled resins could replace almost a third of virgin plastic by 2030 and nearly 60% by 2050.
- At least [60 chemical companies](#) are racing to develop chemical recycling technology, a process that can create clean, virgin resin for use in new products. A \$120 billion market opportunity for recycled materials awaits successful technologies.



📷 Source: Annual CO₂ emissions from plastic could grow to more than 2.75 billion tonnes by 2050, [Guardian](#)



Advice for Business

- 1** Set more ambitious commitments to reduce plastic use — such as eliminating non-essential plastic items — and design products so plastic can be reused or recycled.
- 2** Invest in and partner on solutions to replace plastic with more sustainable alternatives.
- 3** Join alliances and/or collaborate with the public sector to develop the infrastructure needed to collect and create a secondary market for waste materials.
- 4** Consider how your plastic strategy aligns with a broader approach to reduce consumption. As a business, how can you align commercial success with encouraging customers to buy less?



Strengthening Recycling in Emerging Economies



Plastic pollution is most visible in Asian and African nations, where waste management systems are often inefficient or non-existent.

“We have recognized that financing is a key barrier, as people always want to know “who is going to pay for it?” By removing capital for infrastructure and operators as a barrier, we believe we can accelerate solutions to policy, education, supply chains and more.”

“ **Rob Kaplan, Founder and CEO, Circulate Capital**

Indonesia, the Philippines, Thailand and Vietnam are some of the world’s top plastic polluters. Together with China, they account for up to [60%](#) of the plastic waste leaking into oceans. Coupled with the fact that plastic consumption is continuing to grow as emerging economies develop, ensuring that all countries have the necessary waste management infrastructure in place will be central to ensuring that plastic waste does not end up in the environment. The main challenges have been cited as a lack of infrastructure and financing, poor public awareness and poor execution of recycling policies.

In an effort to remove financing as a barrier to improved infrastructure, Circulate Capital [launched](#) a \$106 million fund dedicated to preventing plastic from entering Asian oceans. The Circulate Capital Ocean Fund will provide both debt and equity



financing to waste management, recycling and circular economy start-ups and SMEs in South and Southeast Asia focused on preventing plastic pollution. The company has identified more than 200 potential investment opportunities across a range of industries in the region.

Companies are also stepping in to help fill the infrastructure gap. Danone has conducted a [mapping exercise](#) to determine which of the markets into which it sells have the lowest recycling rates. In Argentina, Brazil, Mexico, Indonesia and Ghana the [Danone Ecosystem Fund](#) is assisting in the creation and development of worker co-operatives that can oversee the process of collecting, sorting and selling plastics directly to recycling plants. With recycling in many developing economies often carried out by millions of waste pickers (often women, children, the elderly and the unemployed) the World Bank [stresses](#) that when properly supported and organized, informal recycling can create employment, improve local industrial competitiveness, reduce poverty and decrease municipal spending.

The success of collecting waste material will require a collaboration between the private and public sector to invest in the right technology, develop technical expertise to maintain a proper waste management system and create a secondary market for waste materials.



Partnering to Keep Plastics in Play



With the world's largest brands, retailers and plastics manufacturers making commitments around plastics recycling, recycled and recyclable content, current projections *indicate* demand for recycled plastics will increase from 5 to 7.5 million metric tons by 2030, requiring an increase in supply of 200-300%.

“If you look at the amount of recycled content in the plastic industry that companies are committing to, they are not going to be able to reach that with the mechanical technologies that exist today. They’re going to need new ways to get that plastic back so that the quality of material is high enough to get into packaging again.”

“ *Bridget Croke, Managing Director, Closed Loop Partners*

However, current infrastructure and technologies are limited. To keep plastics in play and out of the environment, investors, brands and industry partners will need to work together and invest in building capacity and scaling existing infrastructure and technologies.

To gain access to sufficient feedstock supply, companies are increasingly establishing partnerships and alliances with different actors in the plastic packaging value chain and/or identifying acquisition targets to gain access to the necessary technology.



One of the largest such alliances, the [Alliance to End Plastic Waste](#), brings together over 40 companies from across the value chain such as Procter & Gamble, Shell, BASF and ExxonMobil. Together, the companies have committed \$1.5 billion over the coming five years into new recycling technologies and building infrastructure to collect and recycle waste.

Meanwhile, plastic manufacturers, including Indorama and SABIC, are making strategic investments in plastics-to-plastics solutions and chemical companies such as BASF, Eastman Chemicals and LyondellBasell are integrating advanced technologies into their own manufacturing and supply chains. [BASF](#) recently announced it will invest €20 million into a partnership with a Norwegian pyrolysis specialist to boost the chemical recycling of mixed plastic waste.

Thanks to these new innovations being developed and scaled in partnership with others, the possibility to return far more waste plastics into the supply chain than previously possible is becoming clear.



Sustainable Consumption

From aspiration to behavior change

With the global population expected to rise to 8.5 billion by 2030 and an ever-growing middle class increasing by [three billion](#) people over the next 20 years, ensuring that global consumption remains in line with planetary boundaries will be critical.

Concern about the environment is increasing worldwide and consumers — most notably millennials and Gen Z — are feeling anxious about the state of the planet. In response, they are increasingly ‘voting with their wallet’ and choosing brands whose values align with their own. While there is still a broad gap between intention and action, a growing body of data is emerging that more and more consumers are actually following through with their intentions. At the same time, many others, despite their best intentions, are not in a position to be able to buy more sustainable products, either due to time or money constraints. To close this aspiration-behavior gap, sustainable living needs to be made more affordable, with a need for greater [systemic support](#) to enable behavior change at scale.

“Over decades of consulting citizens worldwide, we have never felt a moment of more urgency and opportunity for brands to connect with their customers on the topic of healthy and sustainable living. We think the co-benefits are unprecedented.”

 **Eric Whan, Director, GlobeScan**

2020 Forecast

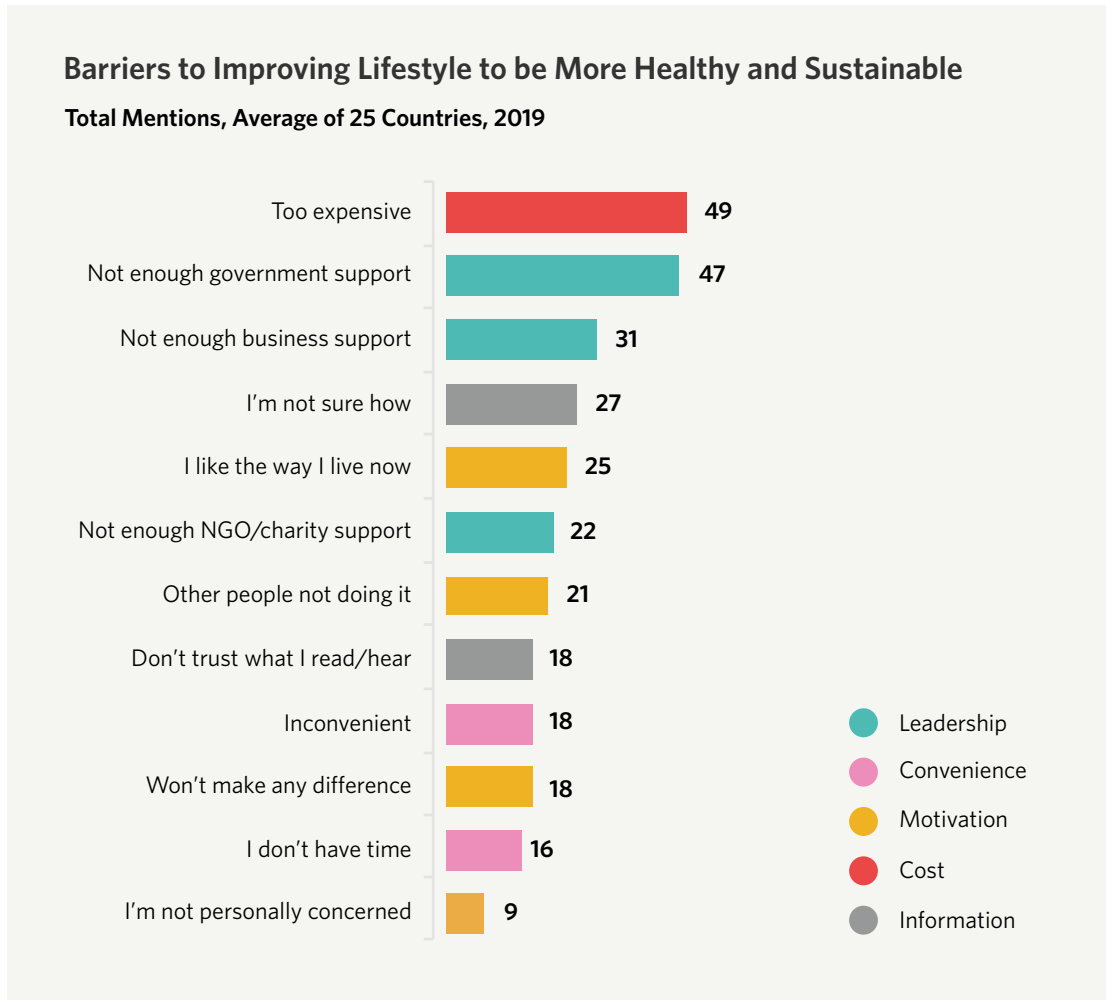
We'll continue to see a growing number of companies respond to changing preferences by providing products and services that enable consumers to live more sustainable lifestyles, driving global sales of sustainable products. Going above and beyond simply responding to consumer demands, we also expect more businesses to proactively strive to catalyze large-scale, tangible behavior change, recognizing that consumers themselves are one of the biggest levers of sustainable consumption.

Signals to Watch

- According to a recent [study](#) of 25,000 consumers in 25 countries conducted by GlobeScan, there is still a large gap between people's intention to live sustainably and current behaviors. More than 54% of respondents said that living in a way that is good for themselves, others and the environment was a major priority but only 37% said they currently lived this way.
- According to recent [research](#) from NYU Stern's Center for Sustainable Business into sales of consumer packaged goods in the US, 50% of growth from 2013 to 2018 came from sustainably-marketed products.
- Earlier in 2019, Pinterest [revealed](#) a surge in user searches around sustainability, with “sustainable living” the most searched term (up 69% since 2018) and searches for “sustainable living for beginners” up 265%.
- According to a [survey](#) by ING, a majority (71%) of UK respondents agreed with the suggestion that slower economic growth would be a price worth paying to protect the environment. Most respondents also acknowledged the problem of overconsumption in their home countries, with 64% of Brits, 64% of Americans and 60% of Australians saying people in their country are excessively focused on consumption.



- In 1990, some 8.1 tons of natural resources were used to satisfy a person’s need, while in 2015 almost [12 tons](#) of resources was extracted per person.



📷 Source: Healthy & Sustainable Living: A Global Consumer Insights Project, [GlobeScan](#)

Advice for Business


- 1 Review your product portfolio: What percentage of your products are sustainable and help customers live healthier and better lives? How are these performing compared to the rest of the business? Integrate sustainability into your core products, don't just add new lines.
- 2 Beyond products, review how your company is using its influence with customers to catalyze large-scale behavior change.



- 3 Review your sustainable transport policy. What is enabling employees to travel more sustainably? How can you reduce air travel? Are you offsetting emissions generated by company travel?
- 4 Don't just consider the impact of individual products, make sure you are considering the sustainability of a system as a whole. Avoid solving one problem by creating another.



Sustainable Travel Takes Off



Global tourism has experienced steady growth for over six decades, culminating in an estimated [1.2 billion](#) international tourist arrivals in 2016, a figure that is forecast to rise to 1.8 billion by 2030.

“Consumers are finally beginning to vote with their wallet, choosing more sustainable options at the product, brand and behavior levels. Brands have an opportunity — and a need — to take action, both to mitigate risk of being left behind and to leverage opportunities created by these growing shifts.”



Douglas Sabo, Global Head of Corporate Responsibility & Sustainability, Visa Inc.

According to the United Nations, tourism is the fourth largest polluter in Europe and accounts for [approximately 8%](#) of global carbon emissions.

Inspired by high-profile campaigns from the likes of Greta Thunberg and Extinction Rebellion, travelers are beginning to take stock of their environmental impacts. While some are pledging to give up flying entirely, others are looking to make their trips more sustainable. With the Swedish-born movement of “flight shaming” gaining prominence, Sweden saw a [4% drop](#) in the number of people flying via its airports in 2019, and UBS [found](#) that 21% of survey respondents from across the US, Germany, France and the UK had reduced the number of flights they took over the last year.



In response to this growing trend, Dutch airline KLM [launched](#) a campaign in 2019 asking people to fly less. The video and open letter from CEO Pieter Elbers asks: “Do you always have to meet face-to-face?” and “Could you take the train instead?” Meanwhile, easyJet is set to become the world’s first major airline to operate net-zero carbon flights across its entire network after announcing it would [offset](#) all jet fuel emissions.

Consumers are also increasingly expecting travel companies to offer more sustainable options once they reach their destination, wanting the money they spend on tourism to go back to the local communities they visit. Led by Prince Harry, HRH The Duke of Sussex, [Travalyst](#) is a new initiative founded by Visa, Booking.com, Ctrip, Skyscanner and TripAdvisor with the ambition to change the impact of travel, for good.

With the EU considering a tax on aviation fuel and France having already introduced an [eco-tax](#) on flying, we predict the coming decade will see a rapid growth in investment in sustainable flying initiatives as airlines attempt to meet the industry’s collective commitment to cut carbon emissions by 2050.



Plant-Based Meat Goes Mainstream



The growth of plant-based foods has surged over the past few years. With a number of [significant investments](#) and product launches in recent weeks, this is one trend that shows no sign of abating.

“We need to see companies taking a more ambitious, integrated approach to sustainable nutrition — and that means addressing sustainability across plant, meat and dairy production and consumption, and putting sustainable protein at the core of business strategies.”

“ [Lesley Mitchell](#), Associate Director for Sustainable Nutrition, Forum for the Future

UBS [predicts](#) the US sales of plant-based protein and meat alternatives will increase from \$4.6 billion in 2018 to \$85 billion in 2030, while the sales of plant-based dairy could reach \$37.5 billion in 2025.

Recent years saw plant-based meat go mainstream and expand beyond the two major disrupters, Beyond Meat and Impossible Burgers. Nestlé released the Awesome Burger; Smithfield, the largest pork producer in the US, started a line of soy-based products; and Hormel began offering plant-based ground meat. Fast food venues are also catching on to the surge in demand for plant-based foods. For example, Burger King is using the Impossible Foods burger patty to make a plant-based version of their whopper and KFC has [launched](#) a plant-based chicken sandwich in the UK.



But with China accounting for [27%](#) of the world's meat consumption by volume, the next breakthrough for the plant-based movement will be breaking into the Chinese market. Several Chinese companies are already starting to make headway with their own new meat alternatives. Hong Kong based [Green Monday](#), for example, has unveiled an imitation pork product made from mushroom, pea, soy and rice. Both Beyond Meat and Impossible Foods are also racing to expand sales to China and confront Chinese skepticism about American-style, plant-based meat.

Despite a seemingly insatiable appetite for plant-based meat alternatives, booming demand does raise complex issues, such as the nutritional profile of formulations and the sustainability of ingredient sourcing. Experts are warning the industry against solving one problem by creating another. Even with the rapid growth of plant-based meat alternatives, meat consumption continues to climb globally. Forum for the Future has [warned](#) food businesses will need to move beyond consumer-driven innovations in plant-based ranges and towards an overhaul of the food system if they are to future-proof themselves and their supply chains. This requires major food companies to move beyond offering a small number of meat alternative products and take urgent action to improve the environmental impacts of existing meat and dairy supply chains.



Supply Chain

Technology improving transparency

While a growing number of companies have set ambitious supply chain goals over the last decade — from achieving zero deforestation to ending child labor — progress against these goals has been inconsistent.

This has been largely due to the complexity of supply chains, particularly where suppliers source from multiple small local operations in countries where regulations and enforcement are less robust, and where transparency is absent or at best minimal.

Almost two decades ago, the world's largest chocolate companies pledged to prevent children from working in their supply chains. A recent report has found that none of the signatories have successfully eradicated [child labor](#). It's been a decade since the Consumer Goods Forum, an industry association comprised of roughly 400 companies, [passed a resolution](#) to achieve Zero Net Deforestation in the commodity supply chains responsible for the bulk of the world's deforestation — cattle, soy, palm oil, and pulp & paper — by the year 2020. Just [21](#) companies have reported quantitative progress on at least one zero deforestation commitment. While progress on supply chain sustainability has been made by isolated companies, it has simply been too slow and incremental to meet the scale of existing challenges. As AI, digitized operations and blockchain technology continue to mature, the hype of previous years is starting to be justified. Practical, real-world collaborative applications of technology could unlock meaningful action at scale.



“A very important cornerstone [to ending child labor] is transparency. We can’t learn if we can’t talk about what we are seeing on the ground. We can’t learn if we can’t talk about our successes and challenges.”

 **Darrel High**, Global Head of Nestlé Cocoa Plan

2020 Forecast

AI, blockchain, use of satellite images and digitization of supply chain data will continue to grow in sophistication, advancing end-to-end supply chain transparency. These technologies will be essential for companies to keep pace with increasingly stringent regulations and expectations from consumers and large customers for increased transparency and disclosure. They will also offer the potential to address issues as they arise in real time. With just ten years to achieve the Sustainable Development Goals, rapidly scaling these technologies will require deeper collaboration across industries — from food and agriculture, to mining, tech and apparel.

Signals to Watch

- In 2019, [43%](#) of CDP Supply Chain program members confirmed that they currently deselect existing suppliers based on their environmental performance. A further 30% are considering implementing this.
- A recent report from Deloitte revealed that [34%](#) of large global companies have already used blockchain technology, while [86%](#) are confident that its mainstream penetration is inevitable.
- After failing to eradicate child labor for more than a decade, three of the world’s largest chocolate companies are now supportive of [European regulations](#) to help protect child workers. The regulations would legally require cocoa importers in the European Union — the world’s biggest cocoa market — to map cocoa supply chains and disclose human rights violations such as forced labor and use of underage children.
- New legislation passed in 2019 in the Netherlands could see company executives [criminally prosecuted](#) if the business is proven to have repeated incidents of child labor.
- Global shipping companies are going digital, with leaders including Maersk increasing efficiencies by offering a [digital platform](#) that allows customers to remotely view and book empty container space.



- IBM has *developed* the IBM Food Trust alongside companies such as Kroger, Nestlé and Carrefour to provide end-to-end supply chain visibility of food products.
- In 2019, the number of CDP supplier respondents reported that they are engaging with their suppliers on climate change increased by one third, up to *35%*. This compares to just 23% in 2017.
- The World Economic Forum in collaboration with Everledger, Lenzing Group, TextileGenesis™ and the International Trade Centre *recently created* the first neutral and public traceability platform capable of visualizing blockchain-based supply chain data from multiple companies and sources. Data will not be shared externally, and sensitive data can be hosted at UN data centers, benefitting from special UN privileges regarding neutrality and immunity.

Advice for Business

- 1 Companies need to identify areas in their supply chains where sustainability progress has been slow or a challenge and explore how technology could enable greater progress.
- 2 Further collaboration is needed amongst peers and competitors to work collectively to address challenges, such as child labor, where progress has been slow.
- 3 As new technologies are adopted, companies should collaborate with peers and competitors to ensure that common suppliers are not having to use multiple tools for transparency and to ensure best practice for applying new technologies to sustainability.
- 4 Further disclosure on engagement with suppliers to manage social and environmental risks, particularly on human rights and climate change, is needed.
- 5 The World Economic Forum in collaboration with Everledger, Lenzing Group, TextileGenesis™ and the International Trade Centre *recently created* the first neutral and public traceability platform capable of visualizing blockchain-based supply chain data from multiple companies and sources. Data will not be shared externally, and sensitive data can be hosted at UN data centers, benefitting from special UN privileges regarding neutrality and immunity.



Technology for Human Rights



Despite growing efforts by business, investors, civil society and policy makers, workers in global supply chains continue to experience human rights abuses.

“It’s essential that companies identify the most relevant supply chain human rights issues based on geography and sector. There is no one size fits all solution. Our approach to audits also needs to change. When done right, audits should serve as a starting point for improvements, not an end in itself.”

“ *Kees Gootjes, Senior Consultant Europe, Middle East & Africa, ERM*

According to the International Labor Organization, almost [25 million](#) people work in forced labor conditions worldwide, [47%](#) of whom are in Asia-Pacific. While conditions have improved in some industries, the absence of robust regulations in many countries has placed the onus on business to safeguard the rights of workers.

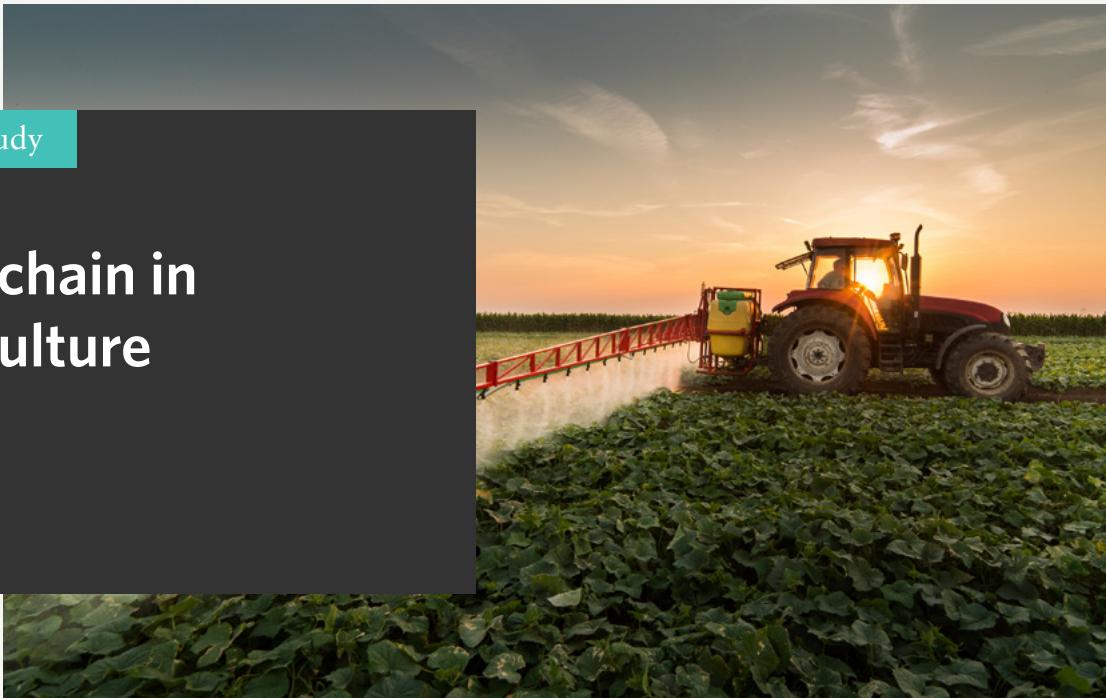
After coming under criticism regarding human rights issues in their sugarcane supply, Coca-Cola [partnered](#) with the US State Department to create a secure registry, using blockchain, for workers and contracts. Blockchain’s validation and digital notary capabilities allowed Coca-Cola to establish higher verification standards to prevent child labor and forced labor.

Mobile technologies have also been used to improve supply chain conditions. For instance, [*mobile survey technology*](#) allows companies and suppliers to review worker-related data. Since 2015, Google has been working with its suppliers using tablets and mobile phones to ask factory workers to anonymously provide feedback on job satisfaction, health and safety, working conditions, working hours and wages. The data collected allows Google more direct oversight of working conditions at factories. It has also benefited suppliers by giving them access to data that enables them to diagnose and address systemic challenges and improve worker retention — a key challenge for many factories.

While the increased use of blockchain, AI and digitization has the potential to address supply chain labor challenges across sectors and industries, key barriers remain in place. Without increased collaboration and sharing of best practices, each company will be individually attempting to re-invent the wheel. While maintaining contracts with high-performing factories can be highly competitive, rapid scaling of solutions will be close to impossible unless companies work together to lift industry standards by sharing lessons learned.



Blockchain in Agriculture



Blockchain can improve data collection and increase transparency. After a major E. coli outbreak affecting romaine lettuce in 2018, Walmart began using blockchain to better track lettuce and spinach supplies.

“Customers, policy-makers, NGOs, investors and employees are increasingly demanding better visibility on where products come from and better management of social, environmental and economic sustainability throughout the supply chain.”



Nadia Hewett, Project Lead, Blockchain and Distributed Ledger Technology, World Economic Forum

In the event of another foodborne illness outbreak, this supply chain transparency will allow [Walmart](#) to pinpoint and discard the items at risk, protecting customers, saving money and reducing food waste.

The overuse of fertilizers and pesticides in agricultural supply chains has enormous impacts on local water catchments, soil’s ability to sequester carbon, flora and fauna health, and the productivity and profitability of land production. In 2017, [General Mills](#) made a three-year \$2 million commitment to the Nature Conservancy, Soil Health Institute and the Soil Health Partnership to support the development of digital tools for farmers, landowners and supply chain leaders to achieve widespread adoption of soil health practices.



A Jakarta-based startup, [HARA](#), is using blockchain to collect and manage farm data — from weather, soil and crop conditions to pesticide and fertilizer use — in a bid to help improve farmers’ productivity and improve resource efficiency. In the past year, HARA has collected data from 10,000 farmers across Indonesia with the support of regional governments and communities, and hopes to expand this to over 90% of farmers within the next five years. The company plans to layer satellite and IoT data into the HARA ecosystem to enable even greater efficiencies and productivity for farmers.

As transparency and engagement technologies continue to improve, companies will face pressure to share details of supply chain management. Companies that move quickly to increase visibility of their operations and management of social and environmental risks will likely benefit from increased consumer trust and loyalty, as well as an improved reputation, while laggards risk reputational damage and loss of trust.



Protecting Biodiversity

Defining the role of business



Mass extinctions have historically been caused by catastrophic events, but recently human activities are to blame.

Animal species are disappearing at record rates and *invasive aliens* are driving out native species, replacing complex ecosystems with a small number of colonizing species. A report from the United Nations *found* that up to a million species are currently threatened with extinction. Climate change impacts are converging with the exploitation of natural resources, resulting in ecosystem collapse. From ongoing deforestation in agricultural supply chains to the effects on coral reefs from rising ocean temperatures, to fires destroying environments in Australia and the Amazon, global biodiversity, and the myriad ecosystem services that it provides, are under threat. The private sector is only just beginning to pay attention to the very real impacts this will have on the global economy.

“Species diversity underpins the ecosystem services that we all rely on in order to source materials for the products, food and fuel we use every day. Disrupting these services and ecosystems is putting our future livelihoods at risk. The private sector has a big role to play in responsibly sourcing materials, setting targets for zero deforestation and protecting

habitats. These actions will ultimately protect their businesses and supply chains in the long term, and help ensure we all have access to the resources we need to thrive.”

 **Margo Mosher, Director, SustainAbility**

2020 Forecast

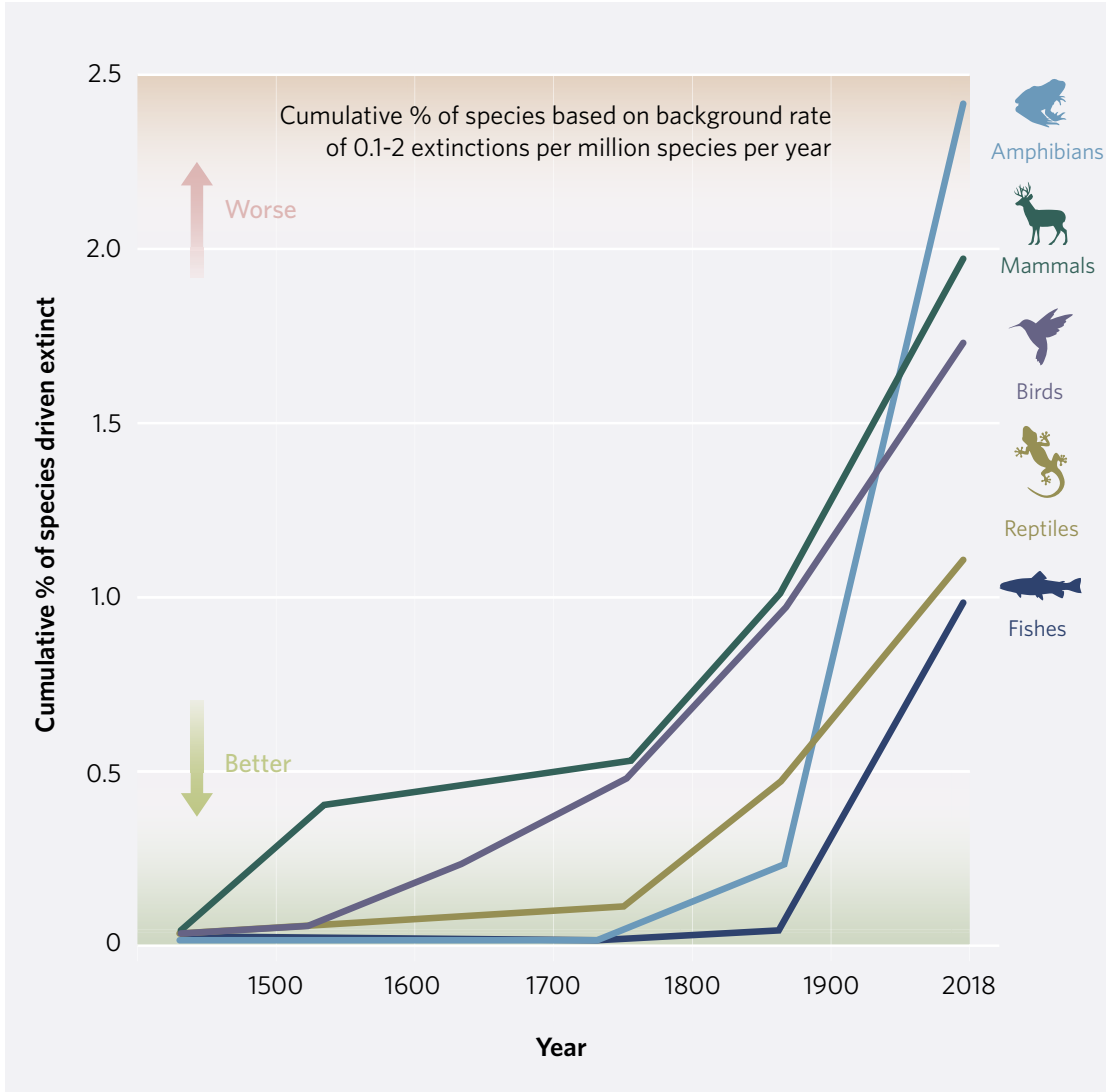
Over the next 12 months, and the ensuing years through to 2030, the business community will need to come together to drive greater and more holistic action to protect the world’s remaining biological diversity, and the trillions of dollars in ecosystem services that it provides. While awareness of biodiversity loss is growing, private sector solutions to address the issue remain insufficient. In 2020, China will be hosting the 15th Conference of Parties (COP) for the Convention on Biological Diversity. Many are calling it the “Paris of Biodiversity,” hoping it will be a tipping point in global efforts to halt ecosystem degradation, expand conservation and plan for the impacts of rising global temperature. The private sector is expected to have a much stronger voice this year than at previous summits. Unless public and private sector leaders elevate this issue and implement a comprehensive global action plan, mass species extinction and ecosystem collapse will continue, with untold social and economic consequences.

Signals to Watch

- Global ecosystems are under threat, in part because governments have [failed to deliver](#) on the biodiversity targets they agreed to 10 years ago in Japan, including designating 17% of land as protected areas by 2020.
- A recent [United Nations report](#) stated that approximately one-sixth of all known species on Earth are on the verge of extinction.
- Experts estimate that more than [one billion](#) animals have been killed so far in the fires impacting Australia. These numbers include rare and endangered species found only on the Australian continent.
- Despite years of working to curb deforestation, most food companies will not be able to meet their target to halt deforestation by 2020.
- Approximately [70%](#) of deforestation is connected to agricultural commodity production, and deforestation alone accounts for approximately [20%](#) of global GHG emissions.



- In the run-up to Climate Week New York in 2019, 230 institutional investors representing \$16.2 trillion in assets under management issued an [urgent call](#) to companies to take action on deforestation.
- Large asset managers such as [BNP Paribas](#) are engaging with companies about deforestation through both dialogue and proxy voting. Notable investors that have incorporated detailed, time-bound policies to curb deforestation risks include HSBC, Rabobank and Credit Suisse.



Source: IPBES



Advice for Business

- 1** Business was central to securing the Paris Agreement at COP15 and now needs to step up through business coalitions and networks to provide a strong and ambitious corporate voice on biodiversity in China.
- 2** Companies in at risk sectors need to set clear 2030 targets for biodiversity and be explicit about how they are going to deliver on them. Year-by-year targets and detailed reporting on progress will be essential to accelerating action.
- 3** Conservation efforts need to align with climate resilience. Identify where ecosystem restoration and improvement align with strengthening the climate resilience of ecosystems in both urban and rural areas.
- 4** Quantify the financial value of natural resources and the company's impact upon them.



Valuing Ecosystems



Efforts to enhance and preserve biodiversity are often underfunded due to environmental, social and health impact valuation not being used in conventional financial analysis.

The total value of global ecosystem services is estimated to be [\\$125 million](#) dollars per year. Meanwhile, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services has developed a [framework](#) for valuing nature that goes beyond assigning a dollar figure. It calls this broader category of value, Nature's Contribution to People or NCP.

American airline JetBlue [partnered](#) with The Nature Conservancy to quantify the value that coral reefs contribute to the Caribbean economy through tourism. Using machine learning and artificial intelligence, reef-associated tourism was estimated at over \$7.9 billion dollars annually for over 11 million visitors. Knowing the monetary value of the reefs provides motivation to encourage greater conservation efforts by tourism-related businesses.

Australian multinational mining company Rio Tinto has long been working with the WBCSD on biodiversity management and valuation of ecosystem services. Due in part to this collaboration, the company now has a [biodiversity strategy](#) with a long-term goal of Net Positive Impact on biodiversity. Meeting this goal requires the company's positive effects on ecosystems to outweigh the negative impacts associated with its mining operations. Rio Tinto is working towards this goal by minimizing its impacts and collaborating with scientists and Indigenous communities to restore ecosystems after mine closure.

Companies are seeking ways to quantify the financial value of natural resources and the company's impact upon them. Placing a monetary value on fresh water resources and ecosystem services provided by native fauna and flora makes it simpler for companies to account for negative and positive impacts on the natural environment. By working with a variety of stakeholders, companies can ensure positive outcomes for both biodiversity and local communities.



Future-Proofing Conservation

In 2020 and beyond, conservation will need to meet the challenges associated with a changing climate.

“Mangroves are one of nature’s most important tools in the battle against climate change. Globally, we’ve lost half of the world’s mangrove forests since the 1940s — so it’s high time we start preserving and protecting them.”

“ *Lisa Jackson, Vice President of Environment, Policy and Social Initiatives, Apple*

This will require scientists, NGOs, companies and governments to work together to not only protect and rehabilitate large areas but to improve the resilience of existing ecosystems to drought, storms, flooding and rising sea levels.

As part of its Give Back Campaign, technology giant Apple partnered with Conservation International to [protect and restore](#) 27,000 acres of mangrove habitat in Colombia. Mangroves reduce the impacts of large waves and high winds produced by cyclones and severe storms, helping to prevent loss of life and damage to infrastructure. The project has an added benefit of sequestering around 1 million metric tons of CO₂ and improving local fish stocks, an important source of protein for nearby communities.



American food and beverage company MondeLz International is [supporting](#) the Ghana Cocoa Forest REDD+ Program to reduce deforestation and forest degradation in the region. The collaboration helps conserve natural ecosystems and resources on cocoa farms while also increasing their resilience to climate change impacts, such as drought, changes in humidity and increased susceptibility to pests.

Companies need to be willing to utilize a variety of tools and technologies, such as gene editing, fire-related vegetation management, and reforestation of degraded land to prevent erosion and landslides. Future-proofing conservation efforts globally will have multiple benefits. Not only will it strengthen companies' resilience in the face of worsening climate impacts in corporate supply chains, it will simultaneously boost the health and economic vitality of communities.



Tech for the SDGs

New innovation helping people and the planet



Rapid advancements in Internet, mobile, AI, data management and other technologies hold enormous potential to offer solutions to some of the most complex social and environmental problems.

In emerging economies, when applied strategically, the scaling of new technologies has the potential to lift more people out of poverty, improve health and education outcomes and edge countries closer to achieving the Sustainable Development Goals.

AI, blockchain, solar panels and battery technology have already laid the foundation for decentralized renewable energy to connect *290 million* people without power to low-cost green energy. Fifth generation (5G) mobile networks are expected to be the next big leap in mobile broadband-enabling smart agriculture solutions and increased engagement in both regional and global commerce. However, without increased investment in technology infrastructure and appropriate governance mechanisms, the promise of these and many other technologies will go unrealized for a majority of the world's poorest people.



“While many analyses point to the world falling short on the SDGs, and we need those crucial alarm bells, we take the glass-half-full view: immense market opportunity remains in every industry and sector. Technology can enable so much of the progress we need. We know where we need to get to, by 2030 and beyond. We expect to see stronger signals of investment in the tools that will get us closer to that future.”

 **Denise Delaney, Senior Director, SustainAbility**

2020 Forecast

Business has an opportunity to increase the scale of the financing and application of technologies to advance the SDGs in 2020 and beyond. This includes partnering with the public sector, NGOs and multilaterals to find creative solutions to financing clean energy and 5G infrastructure, and working with governments to ensure adequate policy and governance mechanisms are in place. Opportunities exist outside of the technology sector, with the benefits of increased technology infrastructure flowing to a broad variety of industries with operations, supply chains and consumer markets in developing regions in Africa, Latin America and Asia.

Signals to Watch

- Increasing internet penetration to 75% of the population in all developing countries (from the current level of approximately 35%) would add as much as [\\$2 trillion](#) to their collective GDP and create more than 140 million jobs, according to the World Bank.
- A recent study [found](#) that existing AI applications across agriculture, energy, transport and water could boost global GDP by 4% by 2030, while at the same time reducing global GHG emissions by 4%.
- Lack of quality education is one of the biggest [obstacles](#) to upward social mobility, according to UNESCO. Due to higher speed connectivity [5G technology](#) offers the potential for remote learning with lower energy consumption.



- A 2019 report *found* the price of basic renewable energy products, such as solar lanterns and solar water pumps, remains out of reach for millions of the poorest people living in sub-Saharan Africa.
- Drone operations are being used and scaled across mining, agriculture and healthcare in more than *23 countries* in sub-Saharan Africa. They were first used to deliver blood supplies in Rwanda just three years ago.

Advice for Business

- 1 Technology companies must work with governments to ensure that essential infrastructure, such as 5G and low-cost renewable energy, is prioritized in poor regions.
- 2 Non-technology companies need to consider how technology can help widen access to their products and services in underserved markets, as well as the partnerships that are needed to increase access.
- 3 Companies should work with governments to ensure that disruptive and innovative technologies are fully utilized, whilst ensuring that societal risks are properly identified and managed.



5G: Enabling Pathways Out of Poverty

5G availability will determine whether or not mobile-dependent users in many regions can fully participate in the global economy.

“We are now in the decade of delivery. We need to see true collaboration amongst the tech sector, in deed as well as word that moves beyond competitive and geographic boundaries. I think it will happen, but will it happen in time to deliver for the Global Goals.”

 *Dominic Vergine, Head of Sustainability, Arm*

For these communities, 5G represents increased economic opportunity through improved access to health care, education, transportation, energy and employment.

5G has a critical role to play in addressing SDG 4 — “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” — by increasing access to remote education for children and adults who are unable to attend school or higher education due to remote locations. Increased internet speeds would allow these students to participate in classes in real time, instead of watching videos of distant teachers. Teachers could connect to students remotely, removing the need to train local teachers or attract foreign teachers to underserved areas.



In 2020, telecommunications company MTN *will run* a trial of 5G in select cities in Nigeria, the first time 5G will be available in West Africa. 5G can enable remote education and telemedicine opportunities, improving medical care in rural areas, and decreasing geographic limitations to higher education. CSRI and Ericsson *note* that the well managed rollout of 5G could also enable inclusive socioeconomic development. This will require African governments to develop regulations and help mobile operators overcome steep infrastructure costs.

Rain, a South African based company, *launched* Africa's first commercial 5G network in late 2019, using existing 4G infrastructure to build the 5G network. Select customers were invited to purchase 5G, however at \$68 per month, the technology is still out of reach for many people. The president of South Africa has called on telecommunications companies to reduce prices in line with other countries around the world in order to enable increased access for many communities.

Companies need to work with governments to ensure that essential 5G infrastructure is available across high-poverty regions and that policies are in place to support the rollout of 5G. This is especially critical in the Global South where technological innovation is most needed and can be held up at the government level. Companies can have the greatest impact through partnership to enable a faster transition to 5G in places where the technology is most limited. Access to 5G will open doors to improved education and healthcare, as long as its distribution is inclusive of all.



mHealth: Closing The Gap In Global Health Access

More than half of the world's population doesn't have affordable access to essential health services and almost **100 million** people fall into extreme poverty due to healthcare costs.

“More than two-thirds of the people on the planet are now connected to a mobile network and, for many, mobile is the primary — sometimes only — channel for accessing the internet and life-enhancing services.”

“ Mats Granryd, Director General, GSMA

In countries where access to health care is difficult and infrastructure is poor, mobile health or “mHealth” can help. Mobile phones are making it easier to diagnose and track disease, digital payments can be made to cover medication and transportation needs for remote patients, and online health education can be reached by millions of underserved communities.

In Southeast Asia, Allied World Healthcare *partnered* with government and the private sector to deliver affordable healthcare in remote communities. In the Philippines and Cambodia, the organization is empowering community members to create health profiles using offline-first apps. This enables access managers to conduct tailored public health outreach campaigns, as well as order and deliver affordable medicine and health services directly to the community.



Amref Health Africa is using mHealth to bridge the gap between people and health services, especially in Africa where they have over [130 programs](#) in 30 countries. Though internet access is limited across Africa, Amref Health Africa is using mobile technology to address disease through hotspot mapping (i.e. tracking the spread of Ebola), training healthcare workers and using text messages to improve health education on oral contraceptives for HIV awareness.

Mobile health (mHealth) has the potential to improve healthcare equity across the globe, providing previously excluded areas with access to better medicine and improved and specialized care. Companies can play a role creating on the ground partnerships with NGOs, governments and multilateral organizations to leverage mobile health technology. As phone ownership around the world continues to increase, mobile applications, especially those that can function without an internet connection, will often be the best option for increasing medical services.



Human Capital

Investing in employee wellbeing



A growing number of global companies are beginning to grapple with the challenge of effectively investing in one of their most important assets — employees.

Unaddressed mental health and addiction challenges, poor stress management, and lack of flexibility in work schedules are impacting both the wellbeing of workers, and companies' bottom lines. The investment community is also increasingly focusing on human capital management as a key risk for portfolio companies. SEC Chairman [Jay Clayton](#) recently stated that he wants public companies to provide more extensive information about how they manage employee attraction and retention. However, one of the biggest challenges that stands in the way of greater progress is effective metrics. Investors, companies and other stakeholders are increasingly paying attention to this important topic but so far they have failed to reach alignment regarding how to define, measure and value human capital.

“Creating a happy, healthy and equitable workplace provides increased access to investment capital, as well as builds social capital across stakeholders and helps attract and retain human capital. The challenge for companies is around the breaking down of traditional silos. In today’s market, Human Resources, Investor Relations, Legal, Sustainability and Environment, Health & Safety teams need to actively collaborate on human capital related issues.”



Mike Wallace, Partner, BrownFlynn, an [ERM Group](#) company and North American Strategic Director, Capitals Coalition

2020 Forecast

As awareness of the financial impacts of human capital grows in 2020, and investors become more focused on the topic, we expect to see more companies prioritize their investment in human capital. A growing number of companies will look into ways to go beyond basic healthcare services and benefits, trialing new approaches to wellness and work/life balance that help employees thrive in the workplace. The efforts to define and measure human capital will also accelerate, and we expect to see greater consolidation and awareness of the emerging frameworks. We will see companies focusing more strongly on accurate data collection and reporting to meet increasing stakeholder expectations around transparency.

Signals to Watch

- A company’s intangible assets, which include [human capital and culture](#), are now estimated to comprise on average 52% of a company’s market value.
- The World Health Organization estimates that untreated depression and anxiety lead to approximately [\\$1 trillion](#) in global productivity losses each year.
- Microsoft recently [trialed](#) a four day working week in Japan, which resulted in increased employee productivity.
- Target recently followed in the footsteps of IKEA by [expanding](#) its family leave policy for 350,000 employees at its stores, warehouses, and headquarters — regardless of whether they are full-time or part-time, salaried or hourly.



- To recruit high school students, Walmart has said it will [pay](#) for free SAT prep and initial college credit courses once they graduate from high school. Walmart [began offering](#) \$1-a-day college to its workforce in 2018.
- Cheap fast fashion continues to hurt the livelihoods of garment workers. A 2018 study by the Fair Labor Association found the average garment worker in Bangladesh would need an [80%](#) pay raise to begin earning a living wage.
- Companies including Hennes & Mauritz AB, Inditex (parent company of Zara) and PVH Corp (the owner of Calvin Klein and Tommy Hilfiger) have signed on to use their purchasing power to enable better working conditions and push for industry-level [wage agreements](#) secured through collective bargaining.

Advice for Business

- 1 Paying a living wage to all employees offers benefits to business and is set to become critical to a company's social license to operate. Companies not yet paying living wages to all employees should use the body of evidence available on its advantages to present the business case to the Board.
- 2 Businesses need to offer complete employee support services that cover work flexibility, family leave, mental health and social support, and identify how to better enable their employees to thrive over the long term.
- 3 Collecting more comprehensive data — whilst being highly sensitive to privacy — on employee health and wellbeing can help companies better understand the needs of staff and whether programs are delivering on these needs.
- 4 The Social and Human Capital Coalition Protocol can help companies better incorporate social impacts and dependencies into performance management and decision-making.



Social and Human Capital Coalition: Valuing employees

Despite growing awareness of the importance of social and human capital for business, there has been little consensus on how businesses can measure and assess its value.

“One of the biggest challenges facing companies that aim to understand the business case for investing in human capital, is establishing credible and reliable approaches for measuring and valuing programs that improve human capital and employee wellbeing. The second challenge is integrating the assessment of human capital into a framework that considers the other key capitals, such as natural, social and financial. Developing reliable, integrated approaches is critical.”

“ *Doug MacNair, Technical Director, ERM*

Even when executives recognize the broad positive impacts of diverse leadership, or resilient approaches to stress management and mental health, they are unable to quantify their value.

The Social and Human Capital Coalition (SHCC), which is now part of the United Capitals Coalition, has developed a framework which aims to help address this challenge. The [SHCC Protocol](#), published in 2019, aims to deliver a credible, comparable and broadly accepted approach to social and human capital impact measurement and valuation. If the Protocol framework is adopted by a critical mass of

companies, it will help create a standardized and comparable set of metrics and data collection practices that can be used by business globally.

Nestlé, an early leader in committing to living wages for all employees, was one of a group of companies who helped develop the Protocol framework. In partnership with the SHCC, Nestlé conducted a [study](#) to determine a methodology for measuring the relationship between employee wellbeing and wage compensation, comparative to regional living expenses. Nestlé found a strong correlation between improved quality of life and health outcomes amongst employees who were paid a living wage, as opposed to standard minimum wage determined by local laws. The findings of the study reinforced Nestlé's 2014 commitment to pay all of its employees a living wage.

The Protocol provides the global business community with an opportunity to not only comprehensively assess internal human capital management, and impacts to the business and employees — it also provides practical tools for companies to examine effects on other stakeholders in the company's value chain, in local communities and wider society. However, without adequate up-take from companies, or the business community coalescing around a similarly comprehensive framework, human capital valuation will remain fragmented.



Investing in Mental Health



A growing number of multinational companies are beginning to tackle one of the biggest causes of lost productivity globally — mental health.

“No one in the healthcare system today, not families, the medical profession, or law enforcement, has the resources to tackle the mental health crisis alone. Organizations of all types need to work together to be part of the solution, and companies need to do more to adapt to employees with mental health conditions.”

“ *Craig Kramer, Mental health ambassador, Johnson & Johnson*

A growing number of multinational companies are beginning to tackle one of the biggest causes of lost productivity globally — mental health. Mental health disorders are very common, with more than [1 in 10 people](#) affected globally. The World Health Organization estimates untreated depression and anxiety alone lead to approximately [\\$1 trillion](#) in global productivity losses each year.

American healthcare company Johnson & Johnson has developed a comprehensive [Employee Assistance Program](#) (EAP) that focuses on the mental health and wellbeing of its employees. The program includes stress management and mental health screening

tools that help identify employees at risk of depression, alcohol problems, anxiety, post-traumatic stress disorder, bipolar disorder and eating disorders, and provides them with both informal social support and qualified treatment. EAP interventions have been found to not only improve employee's emotional well-being but also produce improvement in work performance, reductions in lost productivity, absenteeism and healthcare costs.

Global financial services firm JPMorgan Chase has been using internal health data to better support its employees with mental health challenges. Around [60%](#) of their employees are covered by the company's pharmacy plan, and within that group the company found that antidepressants ranked at number three in terms of the amount of money spent. Since this revelation, the company has implemented a holistic approach to mental health management that involves early identification, and when necessary, skilled support by licensed clinicians and psychiatrists. Two of the most effective elements have been educating managers about how to recognize depression and anxiety disorders and how to refer team members to the company's EAP. The goal is not for managers to start diagnosing people but rather to teach them how to reach out with empathy and sensitivity, and connect colleagues with the right workplace resources before problems reach the threshold of disability.

By collecting more comprehensive data on employee health and wellbeing (while protecting data privacy), companies can be better positioned to support employees with comprehensive support services that benefit both individual wellbeing, and financial bottom lines. Companies at the vanguard of this movement will likely experience reputational benefits, as well as reaping the rewards of increased employee productivity, loyalty and improved talent attraction and retention.



Sustainable Finance

Moving into the mainstream

Sustainable finance, albeit at a small scale, has now firmly entered the mainstream. From environmental, social and governance (ESG) portfolio screening to impact investing to achieve the SDGs, banks and institutional asset managers are seeing the long-term financial dividends of focusing on ESG risks and opportunities.

Global asset managers in the US, Europe, Japan, and Australia are paying attention to growing client appetite for investment products that benefit society and the environment. Simultaneously, both banks and institutional investors are facing increasing public criticism for continuing to support carbon intensive fossil fuel companies. Some of the world's largest financial institutions are beginning to listen. While the growth of ESG products has been impressive over the last two years, and divestment in coal is increasing, both are occurring at a relatively small scale when compared to the total global investment market. If the global community is going to keep global warming to 1.5°C and achieve the SDGs by 2030, global finance will need to shift from incremental changes, to industry transformation.



“One of the most promising recent developments has been a growing number of new public and private sector financing instruments available for low carbon and alternative energy projects such as green bonds, blended finance, and others. However, many of these kinds of projects remain unbankable and need further preparation and resources in order to benefit from available financing instruments.”

 **Juana Hatfield, Consulting Director, South Africa, ERM**

2020 Forecast

An increase in the issuance of both green and social impact bonds is likely as demand for investments that positively affect society and the environment continues to grow. We may also see increased scrutiny regarding the burgeoning ESG product market, with industry experts more astutely assessing the actual impact of products using improved social and environmental measurement data. Meanwhile investors will become increasingly active in engaging companies on climate change risks and opportunities — both through direct conversations with executive leadership — as well as proxy voting and divestment.

Signals to Watch

- According to The Global Commission on the Economy and Climate investment of some [\\$90 trillion](#) is needed over the next 15 years to achieve global sustainable development and climate objectives.
- The sustainable finance market is now estimated to be worth more than [\\$380 billion](#) a year.
- In 2018, approximately [\\$58.8 billion](#) in social and sustainability bonds were issued. As of October 2019 the green bond market alone surpassed [\\$200 billion](#) in total issuance.
- The Bank of England has [estimated](#) that investments worth more than \$20 trillion could be left stranded as governments set more ambitious climate targets.
- BlackRock and Vanguard [control](#) the largest blocks of shares in nearly every publicly-traded firm in the US, and have come under [increasing criticism](#) for their failure to vote in favor of key [climate proposals](#) where they held majority shares.



They will be under increasing pressure to vote in accordance with their stated positions on climate in 2020.

- BlackRock has [announced](#) it will no longer invest in companies that generate more than 25% of revenue from thermal coal. The giant investor is following in the footsteps of [BNP Paribas](#) and Norway's \$1 trillion [sovereign wealth fund](#) who have previously made similar commitments.
- The German government will begin [issuing](#) more than \$10 billion in green bonds to finance green investments from 2020, according to a draft climate plan released by the country's government.
- In fall 2019, 130 global banks with more than \$47 trillion in collective assets [launched](#) the Principles for Responsible Banking. The aim of the framework is to accelerate the banking industry's contribution to achieving the Sustainable Development Goals and the Paris Climate Agreement.
- Wall Street's growing interest in impact investing has drawn [scrutiny from the SEC](#), which is calling for the creation of ESG standards in order to better track effectiveness and impact.

Advice for Business

- 1 As asset managers gain a more mature understanding of ESG risks and opportunities they will expect more and better data and dialogue with companies. Companies will need to demonstrate that sustainability is integrated into the business and investor relation teams are able to communicate industry comparable sustainability performance data to investors.
- 2 As greater scrutiny is placed on the effectiveness of ESG products, more rigorous, standardized data to assess impacts will be expected from companies.
- 3 Companies need to ensure their own investments, particularly employee pensions, are aligned with their own sustainability goals. If a business has a commitment to work towards net zero emissions, then its pension investments should be consistent with that goal. Actively supporting pension divestment from carbon-heavy stocks is an ambitious step that companies should take.



Seeking Alpha via the SDGs

Regulatory interventions in Europe and Asia, combined with growing consumer interest in social and environmental impact finance, are resulting in mainstream investors increasingly entering the SDG-related product market.

“As more financial institutions enter the impact investing and SDG-related ETF space - and the market becomes increasingly competitive — we’re going to see clients and other key stakeholders casting a much more critical eye over the impact and effectiveness of these products and initiatives. SDG-washing is going to be under the microscope.”

“ *Christina Wong, Director, SustainAbility, an [ERM Group](#) company*

With climate bonds demonstrating strong growth in recent years, financial firms are beginning to explore other areas of impact that have less market saturation, such as fresh water access, sustainable consumption and the circular economy.

Credit Suisse and Lombard Odier have [joined forces](#) to launch a responsible consumer fund aimed at spurring progress towards the targets of SDG 12: Responsible Production and Consumption. Credit Suisse has said it will use the fund to invest in businesses whose core purpose is to drive momentum towards more sustainable models of consumption and production by producing sustainable products and services.




Meanwhile BlackRock, the world's largest asset manager, has launched its first circular economy fund as part of a new [partnership](#) with the Ellen MacArthur Foundation. The fund is designed to drive investment in three broad categories — companies that adopt the principles of a circular economy in their business operations; companies provide innovative solutions enabling others to become circular; and thirdly, beneficiaries — companies that will likely experience growth from the transition to a circular economy (for example aluminum can producers that will benefit from markets shifting away from single use plastic packaging).

Investors are increasingly recognizing the financial risks associated with sustainability challenges, such as dependence on scarce resources, as well as the scale of opportunity presented by the transition to a sustainable economy. Early adopters are benefitting from high growth in SDG-related investment products. As the market matures, asset managers can expect greater scrutiny regarding SDG-related investment products and their real-world impact measurement. Developing more rigorous, standardized data to assess product impacts will be a key challenge that will need to be addressed in the near future.



Engaging Companies on Climate Change



As companies begin to experience more direct impacts from climate change at both a regulatory level, as well as in their direct operations and supply chains, asset managers, insurance companies and pension funds are starting to act.

“Up to 80% of coal assets will be stranded, up to half of developed oil reserves. A question for every company, every financial institution, every asset manager, pension fund, or insurer is: What’s your plan?”

“ ” **Mark Carney, Governor, Bank of England**

A [recent study](#) by Harvard Business Review of 70 senior executives at 43 global institutional investing firms showed that ESG was almost universally top of mind. Participants included BlackRock, Vanguard and State Street as well as giant asset owners such as the California Public Employees’ Retirement System (CalPERS), the California State Teachers’ Retirement System (CalSTRS) and the national pension funds of Japan, Sweden and the Netherlands.

According to the US SIF Foundation’s biennial Report on US Sustainable, Responsible and Impact Investing Trends, climate change and carbon were the top [ESG issues](#) for money managers representing \$3 trillion in assets and the third-biggest issue for institutional investors with a collective \$2.24 trillion in assets in 2018.

Institutional investors across Europe, Asia, Australia and North America are acting on the risk of falling fossil prices and stranded assets by divesting from coal and other carbon-heavy companies under active management. The number of institutional investors committed to cutting fossil fuel stocks from their portfolios has *increased dramatically* up from 180 in 2014 to more than 1,100 in 2019. The world's largest sovereign wealth fund, which manages \$1 trillion of Norway's sovereign wealth assets, received approval from the country's parliament for the largest fossil fuel *divestment to date*, dropping more than \$13 billion in fossil fuel investments in 2019, including eight coal companies and an estimated 150 oil producers.

Following in the *footsteps* of BNP Paribas Asset Management and *Candriam*, BlackRock recently *announced* its intention to remove shares of all companies that generate more than 25% of their revenue from thermal coal production from both its actively managed equity and bond portfolios. BlackRock expects this to be completed by the middle of 2020. This announcement came after the company faced increasing criticism — and a *targeted campaign* — to end its backing of coal companies.

Despite a small but growing number of large-scale fossil fuel divestments, a majority of asset managers prefer an approach of direct engagement with companies on high-risk topics such as climate change, *more so than divestment*. Some investors, such as Japan's \$1.3 trillion national pension fund, believes it can be better to stay invested and push companies to change their business practices. But that engagement-oriented approach can also have its limits, particularly in the case of fossil fuel companies who are lagging on climate change, and have no intention of shifting their business models towards low-carbon energy alternatives. Asset managers such as BNP Paribas are taking a more aggressive stance, divesting from companies that fail to make changes after direct conversations, and then *reinvesting* again if the company makes the changes the company asked for.

As risks from increasing GHG regulations and stranded assets grow alongside increasing global action on climate change, companies that begin to more aggressively engage fossil fuel companies on climate change will be well placed to benefit. These companies will not only more effectively manage their exposure to *under-performing* carbon-intensive companies, they will likely benefit from reputational improvements.



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About SustainAbility

SustainAbility is a think tank and strategic advisory firm working to inspire and enable business to lead the way to a sustainable economy.

Established in 1987, SustainAbility delivers illuminating foresight and actionable insight on sustainable development trends and issues.

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