

TOWARDS NET ZERO:

HOW BUSINESS IS RISING TO THE CHALLENGE

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SUMMARY

Why large companies are aligning their businesses with climate science

To avoid catastrophic climate change, the world needs to reduce to 'net zero' emissions of greenhouse gases within the next three decades. This is the message from climate science, and it is one that business has woken up to. Indeed, in a survey of over 300 multinational companies, two-thirds said the latest report by the UN's authority on climate change, the IPCC, had influenced their company to raise its ambition.

But more than the science—our research helps confirm that climate change is impacting business now. Seven in ten companies say availability of inputs is being curtailed owing to climate-related events. Adding those who have experienced rising costs of supplies, and the share witnessing climate-related supply chain disruptions rises to almost nine in ten. For more than six in ten companies, climate change is also having a direct impact on their operations.

Businesses, especially very large ones under the scrutiny of shareholders, customers—and, increasingly, their own employees—are starting to act. Of those we surveyed, some three-quarters said they are planning to achieve net zero emissions, of which almost nine in ten say will do so by 2030—by which time globally, emissions need to be half of levels today.

Companies cite myriad benefits of aiming for net zero, too, including becoming more competitive and attractive for investors and customers. Of those planning net zero investments, more than eight in ten expects them to pay off, on average within six years, at a cost of 5% of annual revenues. And there are co-benefits, such as lower and more predictable energy costs, improved community and customer health, and happier, more motivated employees.

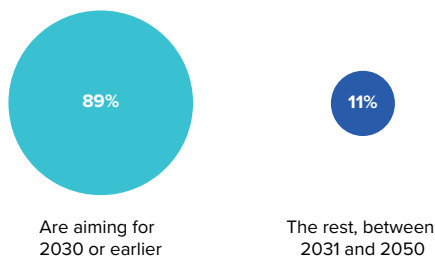
Companies are rising to the challenge—but there is much work to do

This is encouraging, for sure. But executives and experts we interviewed for this research are under no illusions about the challenges ahead. Indeed, precisely half of companies expect they will use offsets to meet their targets, partly as the necessary technologies are too costly—or don't yet exist.

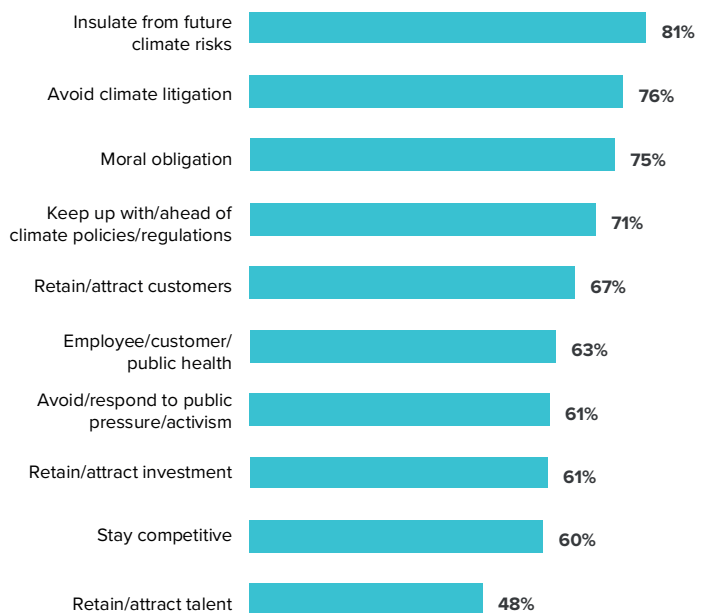
More than eight in ten plans to invest more in renewable power, which is becoming cost-competitive in many markets; if current storage constraints can be overcome with more investments, it may tip the balance in favor of clean power. Yet just one-fifth of our economy currently runs on electricity, meaning vast strides will be needed to electrify transport, industry and heating, and develop alternative fuels to fill the gaps. In the meantime, efficiency measures alone could get us around a third of the way there—and need to be part of any strategy.

Since a third of emissions also derive from land-use—such as from livestock and deforestation—more focus is needed from companies, NGOs, investors and policymakers to measure, monitor and reduce the impact as well as to promote ways to allow nature to keep doing its job in absorbing carbon—the value of which is only going to increase.

76% of surveyed companies has a goal to achieve net zero emissions



Top motivations to achieve net zero emissions



The road to net zero

The critical question is whether it will be enough. The bulk of many companies' emissions occur in the supply chain—indirectly, in how inputs are sourced and shipped, and how products are used and then discarded. For now, most companies are targeting emissions from their own operations, but there is growing focus by leading companies, investors and advocacy groups on value chain emissions. Many companies are revising procurement standards; the leaders actively engage and support key suppliers to reduce emissions. This is backed by our survey, where six in ten executives say they will require main suppliers to switch to renewables as part of their net zero goals.

This means that even smaller companies need to prepare for net zero. Yet our survey indicates that ambition drops in line with company size. Smaller companies face greater financing constraints and may lack the knowledge and tools to measure their impact and achieve deep reductions.

All the more important that policies, too, are aligned. Executives urge governments to set the right standards and incentives, and put a price on carbon to encourage faster progress—something an overwhelming majority are in favor of. Though an increasing number of countries are setting net zero goals, the world is still far from where it needs to be. Now that the business case is clear, it is surely time for all players to act.

The Net Zero Toolkit

Make it the mission	Companies that have been able to link it directly to their mission are finding new opportunities at the nexus of customer and climate needs, while also avoiding conflicts with other commercial goals.
Lead the change	If your leadership isn't climate-competent, not only will it fail to capture the benefits of the net zero transition, but as a company, you will be less attuned to the risks and more exposed to climate liability.
Measure and disclose	Use externally-verified tools to find out where your emissions derive, as far as possible across operations, product lifecycles and value chains. The more you measure, the more reduction possibilities you stand to uncover.
Set the goal	Targets anchor ambition. Having a net zero goal is key to avoid delaying hard choices, but if your deadline is years away, be sure to set an interim target designed to bring reductions aligned with climate science.
Create incentives	Linking targets and bonuses to meeting climate goals is a must for staying on track. To really shift behavior, consider an internal carbon price—something two-thirds of companies aiming for net zero have in place or in planning.
Engage the value chain	Businesses often have a lot more influence than they realize. And not just with suppliers. Ambitious companies are finding ways to impact other stakeholders, helping raise awareness while reducing emissions in their value chain.
Develop (good) partnerships	Ambitious companies say coalitions are vital to making progress; NGOs bring expertise, and cross-industry groups can help co-finance solutions, like clean power. Influence or exit any groups whose positions do not align with a net zero world.

WHY WE NEED TO TALK ABOUT NET ZERO

During the past 12 months, just as temperatures have reached new records,¹ so too has climate change reached a new level of impact, both in civil and corporate spheres, from the rise in youth activism to devastating fires from the Arctic to the Amazon.

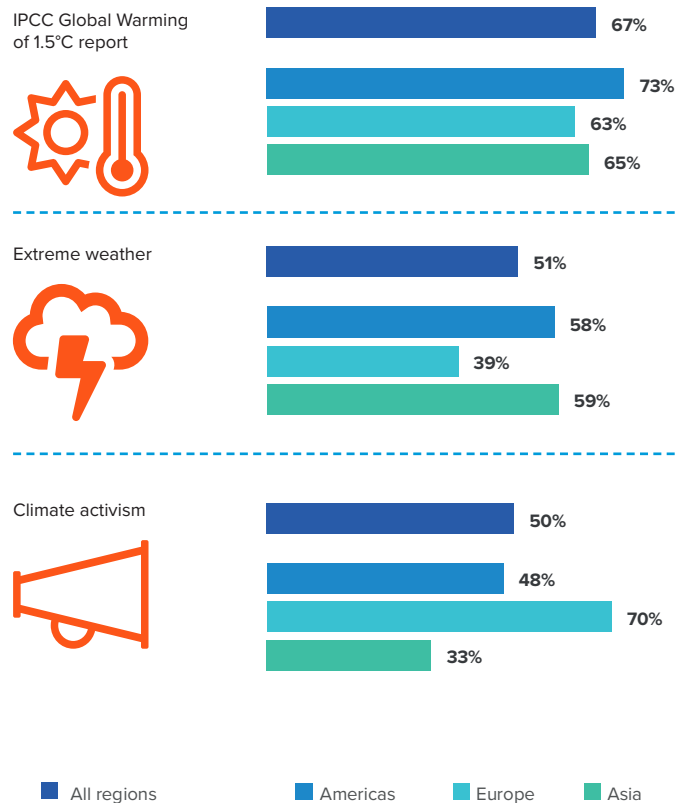
But it is the science of climate change that has really focused minds in the business community. In a global survey of senior executives from 307 large companies, conducted in July 2019, two-thirds said last year's report by the IPCC, the UN's scientific authority on climate change, helped raise their company's climate ambition, ahead of both extreme weather events and activism.² The report calls for achieving net zero emissions by 2050 to avoid the worst impacts of climate change (see more in Box 1).

Survey data confirms climate change is already impacting business

For many parts of the world, climate change is already here. Wildfires, hurricanes, droughts and floods have become more intense, with once-in-a-century events now occurring with devastating frequency.³

With most companies locked in global supply chains, such impacts are being felt across the world. Indeed, across regions, seven from ten respondents reported that climate-related events had disrupted supply chains over the past year; six in ten have experienced direct impacts to their operations. And altogether, almost nine in ten (86%) reported either shortages or higher costs of supplies, linked to climate change.

Figure 1. Top influencers of climate ambition, last 12 months



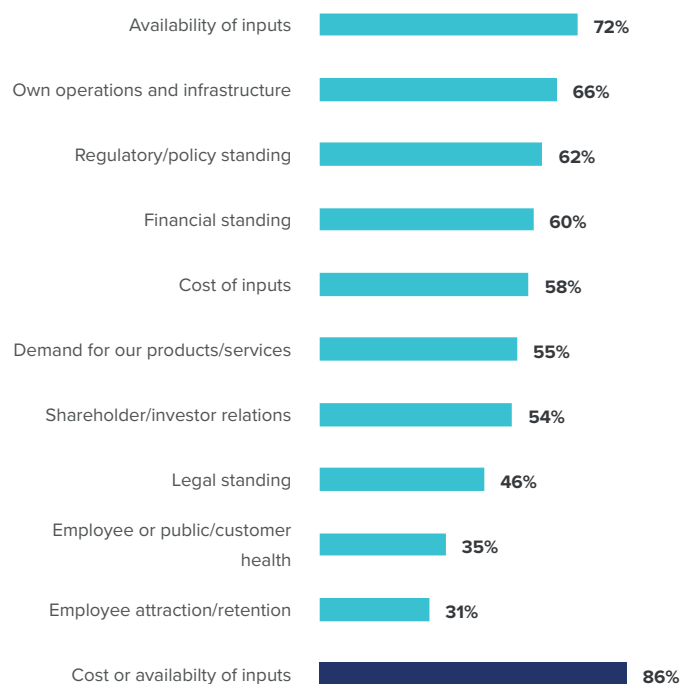
“The science has become more and more compelling that we are headed in a direction that could be catastrophic. For people, for nature, for economies, if we don’t change course. And last year’s [IPCC] report really drove that home.”

— Marty Spitzer, Senior Director of Renewable Energy, WWF

“Wildfires and other extreme weather events exacerbated by climate change have a direct and severe impact on healthcare delivery and overall health. That is why our work to become climate neutral is core to our mission.”

— Bernhard J. Tyson, Chairman and CEO, Kaiser Permanente

Figure 2. In what ways is climate change impacting business today?



“Our plan is to signal that 1.5 is the new normal. That is where we need to go. And we want to gather a group of front-runner companies that have the courage to set this target and to really be role models for many companies across the world.”

— Lise Kingo, CEO, UN Compact

Box 1: Getting to net zero: how much to reduce and by when?

Net zero by 2050 means that greenhouse gas emissions—which have risen almost every year since the start of the industrial revolution—reaching a record high last year⁸—must start to *decline* as soon as possible, ideally by 2020. By 2030, emissions should be around half of levels today, and net zero by 2050, meaning any greenhouse gases being released should be able to be absorbed by natural “sinks”, like forests and oceans, as well as by technical carbon capture and storage (CCS).

According to the IPCC, this gives the world a reasonable chance of keeping temperature rises below 1.5 degrees Celsius (1.5°C). Further warming beyond this risks triggering “tipping points”, such as melting of the permafrost, which could release yet more greenhouse gases, potentially locking in higher temperatures, sea level rises and posing the risk of an exponential rise in climate-exacerbated events.⁹

Yet policies are not aligned

Though an increasing number of countries and states are putting net zero goals into law,⁴ current policies still fall short, and put the world on track to reach devastating warming levels this century.⁵ As Marty Spitzer, Senior Director of Renewable Energy at WWF says, “We have an implementation gap, an ambition gap and a policy gap. We really don’t yet have the policies in place that will help us collectively get to where we need to go. And companies really need to be engaged in that.”

Izabella Teixeira, a former minister of environment for Brazil, compares the Paris negotiations to the first climate negotiations in Rio in 1992.⁶ A key difference has been the much greater role of both civil society and the private sector, which she puts down to a mix of globalization making climate change a risk to global supply chains, as well as governments realizing they cannot finance the transition to a low-carbon economy on their own. “It is impossible to address solutions on climate change with only public funds. We need private funds. We need the full engagement of society,” says Teixeira.

With all eyes on 2020, when governments are due to present their updated UN commitments, bodies such as the UN Compact are urging major companies to step up their ambitions to encourage countries to raise theirs.⁷

NET ZERO AMBITIONS AND DRIVERS

Our survey suggests major companies are increasingly stepping up and aligning their businesses with a net zero goal. Three-quarters (76%) of respondents said they have set a goal to achieve (net) zero emissions from their operations, with almost nine out of ten aiming for 2030 or earlier—or two decades ahead of the IPCC deadline.¹

This is encouraging, but not yet grounds for complacency. Our survey focused on large companies, many of who are under more public and investor scrutiny. Within our sample, ambition rises with company size, while privately-owned companies are slightly less ambitious on average. Some sectors are also “greener” than others and—like countries such as Norway¹⁰—can decarbonize more quickly. In our survey, service-oriented companies like healthcare and technology have higher ambitions than industrial ones.

¹ Terminology around climate targets can be confusing, with terms such as neutral, zero or net zero often used interchangeably and not always consistently. For our net zero calculations, we used the broadest definition encompassing companies that plan to or have already reached neutrality/net zero to those aiming to become climate positive, i.e. sequestering more emissions than they emit. Moreover, companies often have more than one goal (for example, to become carbon neutral and then reduce all emissions to zero). It is worth noting that, even in the case of companies planning to reduce own emissions to zero, the share expecting to use offsets was broadly even across all categories.

Figure 3. Which statements apply to your organization? Tick any that apply

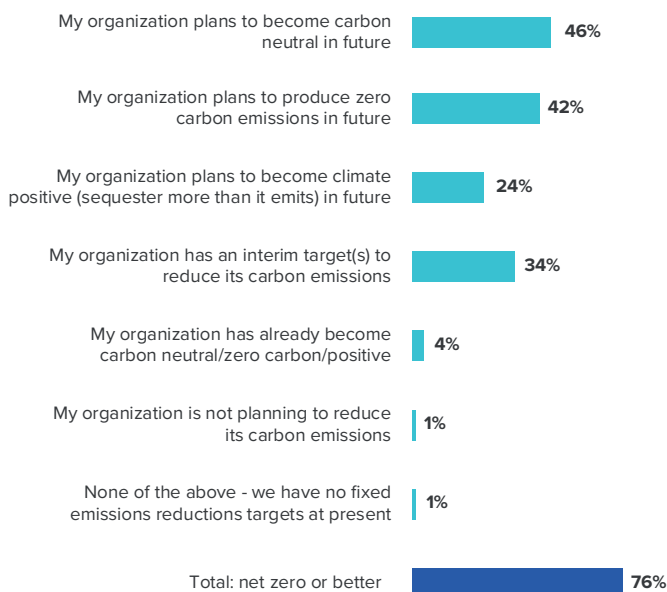
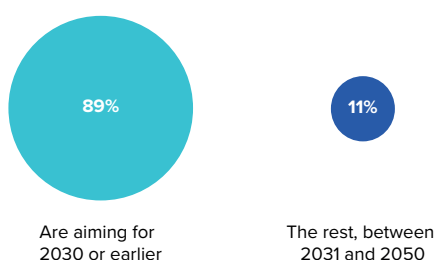


Figure 4. By when will your organization achieve net zero emissions?

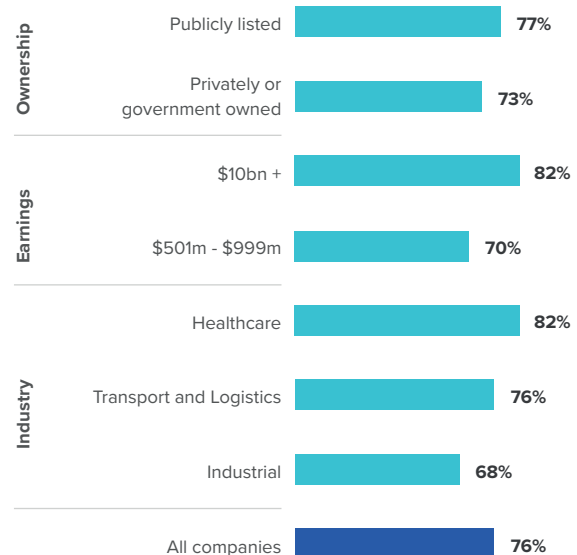


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As Bruno Sarda, President of CDP North America—which helps organizations measure, understand and address their environmental impact—points out: “For business as a whole, for society as a whole, it is a hard right to go and put ourselves on a trajectory to keep warming below 1.5 degrees. The change has to happen in the way we produce electricity, in the way we move people and things in our society, and the way we interact with land and produce our food.”

As this and the following chapter explores—whether it is mitigating direct risks to operations, or responding to pressure from employees, customers or investors—aligning with net zero is something all businesses increasingly need to work towards.

Figure 5. Share of companies with net zero goals, selected demographics



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“The temperature of the planet is literally increasing, but also the temperature of activity. We’re seeing raised ambitions on top of some already high ambitions from business leaders, and a greater number of companies getting involved. Our concern is the much larger number who don’t yet have their heads in the game.”

— Eric Olson, Senior Vice President, BSR

Climate impacts

With a majority of companies now witnessing the impacts of climate change first-hand, it is perhaps not surprising that the top driver of ambition is insulation from climate risks, cited by over eight in ten companies.

California-based healthcare provider Kaiser Permanente is among those on the frontline of climate-exacerbated events. During 2017 and 2018's record wildfires,¹¹ their hospitals saw up to a 40% increase in emergency room visits from respiratory illness caused by heat and pollution, as well as a marked increase in psychiatric visits due to anxiety and depression, according to Kathy Gerwig, Environmental Stewardship Officer. And when Hurricane Maria battered Puerto Rico in 2017, it also ruptured the supply chain for saline bags, leading to months of nation-wide shortages.

In addition to human costs, such disasters can be financially crippling, as California-based utility PG&E recently discovered when it incurred liabilities of over \$30bn from disruption to services owing to wildfires, requiring it to file for chapter 11 protection.¹² Lawyer Sophie Marjanac, Climate Accountability Lead of environmental non-profit law firm ClientEarth describes PG&E as, "One of the frontrunners of climate risk bankruptcy."

"When companies fail to prepare, to plan, to adapt to changing conditions then liability is likely to follow."

— Sophie Marjanac, Climate Accountability Lead, Client Earth

Finance and liability

Whereas climate-related lawsuits have to date tended to involve class actions from civil or environmental groups, now investors are starting to demand more action. This summer, ClientEarth invested in a Polish utility and took a case to force a U-turn on a planned coal-fired power plant, and won.¹³ Following the ruling, according to Sophie Marjanac, the utility's share price went up.

Marjanac says that there is a growing risk companies could face legal action for climate-related risks, especially in markets such as the US and Australia, which are highly litigious. And liability is not limited to the industries directly causing global warming, it is increasingly linked to its risks.

Indeed, avoiding climate litigation was the second-strongest driver of ambition in our survey, cited by 76% of respondents with net zero goals, with higher responses in North America, among industrial companies and very large organizations. Relatedly, 61% cited the ability to retain and attract investment.

Several interviewees highlighted the significance of the Task Force on Climate-related Financial Disclosures (TCFD).¹⁴ Launched by Michael Bloomberg in 2015, it encourages companies to disclose their climate-related risks in order to spur investors to channel private capital in the most climate-conscious directions. Neither is the transparency onus purely on companies. In a related initiative, the Principles for Responsible Investment (PRI) asked members (asset managers and owners) this year to publish climate-related risks aligned with TCFD criteria. Almost 600 did, representing close to \$50bn in assets. By 2020, disclosure will be mandatory for all 2,300 PRI signatories.¹⁵

Figure 6. Top motivations to achieve net zero emissions

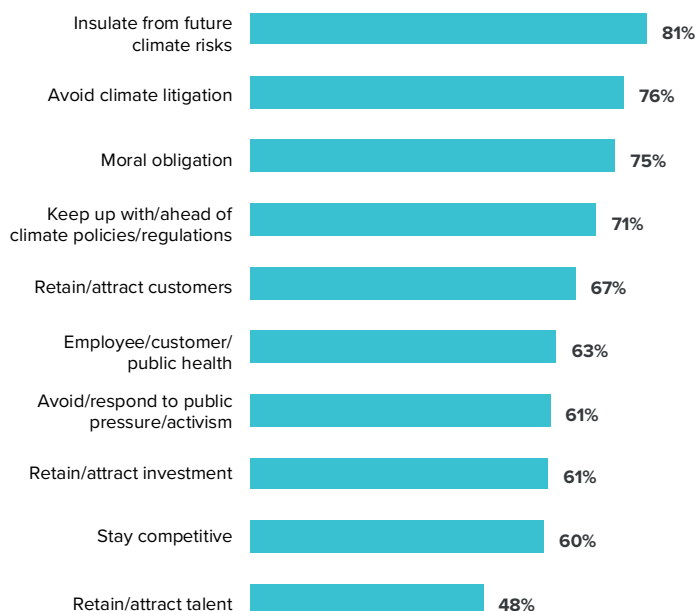


Figure 7. Top respondent groups citing avoidance of climate litigation as a key driver (average = 76%)

Americas

83%



Very large organizations (earning USD10bn +)

85%



Industrial companies

89%



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Future-proofing business

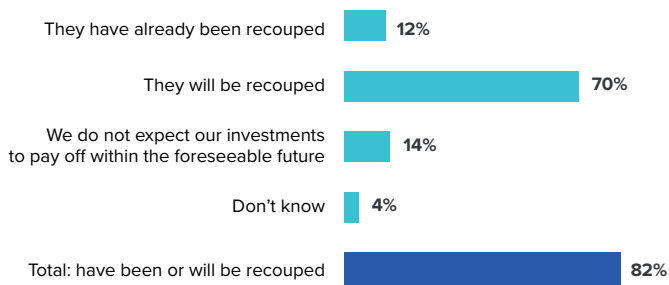
It's not all about risk. Respondents to our survey cited multiple commercial benefits—including attracting new customers, remaining competitive and securing investments—as key drivers of their net zero ambitions. The vast majority (82%) of surveyed executives also expect a return on their investments, on average within six years.

Engie is a France-based utility that took a decision around the time of the Paris climate talks to radically change its company's direction, including divesting from coal and halting new oil and gas exploration. As the company's CFO Judith Hartmann explains, "There has been a very big shift. We sold €16bn in assets and were able to reduce our emissions by 50% from 2015 levels." Engie also made substantive investments in renewable energy and set up a new energy efficiency consultancy with the aim of helping 500 large corporations to "manage their zero carbon transition."

The move has helped Engie not only to insulate from legal and reputational risks related to fossil fuels, it has proved financially rewarding: prior to 2015, revenues had been falling for several years; the company is now back to organic growth.

Kaiser Permanente has already reduced its emissions by over 30% since 2008 and is aiming to become carbon-neutral in their operations in 2020, with a goal of 100% renewable electricity deployment. As Kathy Gerwig explains, "We're spending a lot on electricity to keep our 1,000 buildings operating every day. While some requires an upfront investment, we are projecting that these investments will be cost-neutral. In fact, I think it's more likely that we're going to save money by being carbon neutral, primarily from locking in our energy prices for a longer term."

Figure 8. Have or will your investments pay off?



N = 233

6.1

Average number of years within which companies expect investments to be recouped

5%

Required investment, as a share of latest year of annual revenues

"Investors are starting to worry about climate change as a risk to their portfolios and are looking to allocate capital in a way that will protect them from the downside and benefit from the upside."

— Mark Lewis, Head of Climate Change Investment Research, BNP Paribas Asset Management

"If you are going to be an energy company in the future you are going to have to be part of the solution and not part of the problem. We believe it's an opportunity not just for us but for our customers."

— Judith Hartmann, CFO, Engie

The social business

When financial headlines often concentrate on the costs and risks of climate inaction, it is easy to forget that companies are run by people, too, with their own values. Indeed, three-quarters of respondents listed “moral obligation” as a key motivator to address climate change, making it the third-strongest driver of ambition (Figure 6).

The societal impacts of climate change are increasingly on companies’ radars. While one third (33%) of respondents said that climate change was impacting employee, customer or community health today, almost twice as many (63%) said addressing climate-related impacts for these groups was a future driver of ambition. Particularly in North America, employees are becoming an increasingly important and vocal group.¹⁶

Arnaud Brohé, CEO of CO2logic, moved from Europe to the US in 2016. He sees employee influence as one of the driving factors of clients’ ambitions in his new home. “It’s really the employees and I think there are two reasons for that. One is that the US economy is booming. It’s really hard to attract and retain talent. When you look at millennials, at younger people, and if you take cities such as New York and San Francisco, which are thriving, you also have many people from overseas that might be even more concerned about climate.”

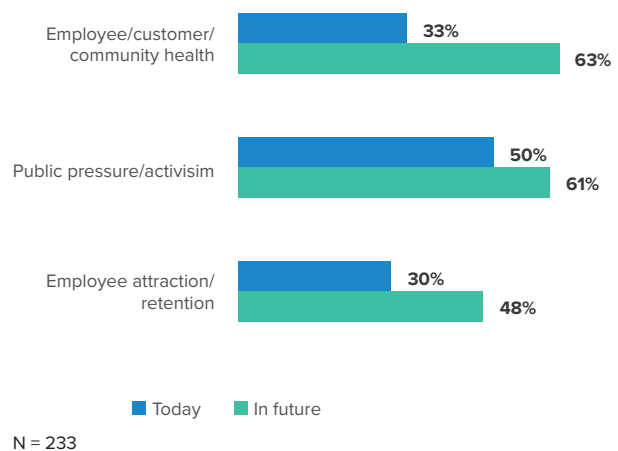
Sending the right signals

As renewables become cost-competitive, hospitals, offices and factories can increasingly move towards zero emissions. But just one-fifth of economic activity runs on electricity today,¹⁷ meaning much of the legwork to get to net zero still lies ahead.

UK-based Telecoms provider BT already achieved an 80% reduction target based on its 2008 emissions four years ahead of schedule in 2016. It has now set a target in line with a 1.5°C pathway, requiring a further 87% reduction by 2030. It aims to become carbon neutral (or net zero) by 2045.

As BT’s Head of Environmental Sustainability Gabrielle Giner explains, its investments mean the company is already using cost-competitive renewable energy to run its UK operations. But achieving neutrality requires addressing the operation of its fleets. “We have around 30,000 vehicles in the UK, so to meet our ambitions, we need to convert those to electric, low-carbon vehicles,” says Giner. “At the moment that is not cost-competitive; actually the vehicles don’t really exist. We don’t have the electric charging infrastructure that we need... that was part of why we wanted to set these targets: to signal that this is where we need to go. We need to work together so that we can come up with the cost-competitive solutions to get there.”

Figure 9. Which of the following climate-related issues are impacting your business today, and which are driving future ambitions?



“If you want to attract new talent—and that’s my clients who tell me this—you need to show that you have an ambitious climate strategy in place.”

— Arnaud Brohé, CEO, CO2logic

HOW COMPANIES ARE PREPARING FOR NET ZERO

Scaling up renewables

The most common strategy companies are adopting is investing in renewable energy: over eight in ten companies said they were doing so and it was the top response across sectors and regions.

There is a growing trend of what Engie's Judith Hartmann refers to as "additionality"—where organizations directly finance new renewable infrastructure. Her company predicts that by 2021, 50% of their sales will come from power purchasing agreements (PPAs) made directly with corporate customers. "The level of sophistication is increasing," says Hartmann. "Increasingly we are seeing customers who want to know where their electricity comes from. They want to know that this wind farm was built because of them."

Particularly in the US, where renewable electricity's share of power lags other regions,¹⁸ initiatives are emerging that seek to help companies and other organizations partner up to make renewable power cost-effective. One is the Renewable Energy Buyers' Alliance (REBA), which grew out of a collaboration between the World Resources Institute, WWF, Rocky Mountain Institute and BSR. It currently comprises just under 200 large energy buyers including corporations, higher education institutions, state and local governments and non-profits.

According to Miranda Ballentine, REBA's CEO: "We were founded on the premise that large energy buyers have a unique voice and the collective power to drive market change." 2018 was a record year for renewable energy deals with buyers, a significant subset of which are REBA members, accessing over 6.5 GW of capacity; in 2019, 3.8 GW has been announced so far. Their goal is to reach 60 GW by 2025 (equivalent to around a third of current US wind and solar deployment¹⁹).

Deep energy efficiency

Though many companies start with low-hanging fruit like switching light bulbs, interviewees and our survey panel agree there is still much more that can be done to save and conserve energy. Around six in ten of companies said they would target "deep energy efficiency" gains as part of their net zero targets.

Anirban Ghosh, Chief Sustainability Officer of India-based multinational conglomerate Mahindra Group, says that energy efficiency alone will take the company "30% to 40%" of the way to its target of being net zero by 2040. This squares with an estimate by the International Energy Agency (IEA) that energy efficiency gains could bring the world 40% of the way to meeting the Paris agreement.²⁰

As a sign of the potential that still exists, Engie's new consultancy is helping corporates achieve greater energy efficiency. "It's not unusual for us to promise a 25% reduction," says Judith Hartmann. "It starts with lighting, with efficient usage of energy depending on how many people are in the building; there are a lot of things that can be done. That is happening now but is also a solution for the future."

Ingersoll Rand, and its strategic climate brands Thermo King and Trane, provides energy efficiency solutions for transport and buildings, and Scott Tew concurs that potential reductions are "definitely in excess of 30%." He explains that, in addition to buildings envelope solutions like glazing and insulation, they use analytics to understand how a building is performing, and can even adjust performance from a distance in order to save energy.

Kathy Gerwig of Kaiser Permanente also stresses the importance of commissioning standards for new buildings. Their policy is to build to LEED Gold standard or better,²¹ and have built the first platinum-certified hospital in California.

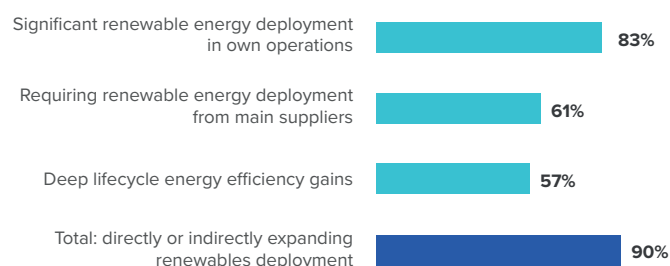
"We have a hierarchy where we say the best way to deal with emissions is not to have them in the first place. So we start with efficiency. Then we go through to abilities to directly substitute, such as renewables. And once we've exhausted those we say ok what's the gap, and what are the best ways to close the gap?"

— Eric Olson, BSR

"Renewables and storage in general have plummeted in price and are competitive with fossil fuel options in many regions, driven in large part by our community's demand."

— Miranda Ballentine, CEO, REBA

Figure 10. Which investments/strategies are you deploying towards your goals? Sub-set energy strategies



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Sustainable products and services

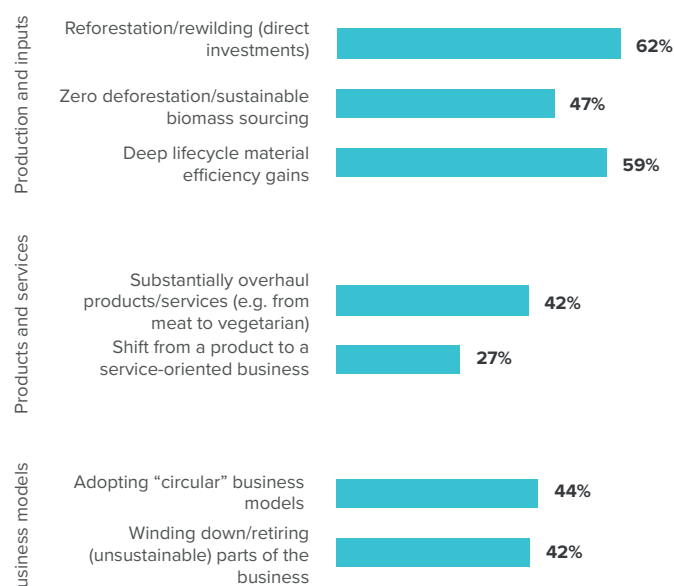
A third basket of strategies cover the entire product and service offering. Around half (mostly from the food and consumer goods sectors) plans to “substantially overhaul their products/services,” and four in ten say they will “wind down or retire” unsustainable parts of their business. Just under half of respondents say they are focusing on sustainable sourcing and avoiding deforestation.

Deforestation causes half of land-use emissions, with land-clearing for livestock farming and feed crops like soy major culprits.²² In 2018 protein company Tyson became the first in its sector to set a science-based target to reduce emissions by 30% by 2030,²³ in line with the Paris agreement; and recently announced investments in its own brand of plant-based protein.²⁴ In our survey, six in ten (60%) of food and agriculture companies said they would substantially overhaul their products, compared to four in ten (42%) across all sectors.

Ingersoll Rand (together with strategic climate brands Thermo King and Trane) has set a target to reduce its product-based emissions by one gigaton of CO₂ by 2030—an amount roughly equivalent to the annual emissions of Italy, France and the United Kingdom combined. As part of its strategy, it has measured the impact of its entire product range. This is an important step, as Rasha Hasaneen, VP Product Management Excellence and Innovation, explains. There can be a trade-off between, for example, reducing refrigerants in a product and improving its energy performance.

Six in ten (59%) companies said they are pursuing material efficiency measures, as many as said they are pursuing energy efficiency programs. Another four in ten (44%) are adopting circular business models—such as remanufacturing or used recycled components, which can substantially reduce the need for new inputs, energy and thus emissions.²⁵

Figure 11. Which investments/strategies are you deploying towards your goals? Sub-set inputs, products and business models



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“It means we have to innovate a little differently, to make sure that we have a solution that meets... the nexus of customer outcomes and climate outcomes. But it’s important enough and core enough that we believe it’s worth it and we believe that the market will support that,”

— Rasha Hasaneen, VP Product Management Excellence and Innovation, Ingersoll Rand

Supply chain emissions

Most companies that have set emissions reductions or net zero goals focus on those emitted directly by burning fossil fuels, and from electricity purchases (referred to as Scope 1 and 2). However, there is growing ambition, and pressure, for large companies to stamp out emissions in their supply chains, known as Scope 3 emissions—which can often be larger than Scopes 1 and 2 combined. “Scope 3 emissions are critical. They’re the ball game,” says Bruno Sarda of CDP.

Eric Olson of BSR agrees and points to a program by Walmart, in which the world’s largest retailer has committed to avoiding a gigaton of GHG emissions from its supply chain by working with key suppliers in the US and China.²⁶

The sector with the most obvious Scope 3 emissions is fossil energy, where most occur downstream by the consumers of fuel. According to Jeremy Bentham, Vice President Global Business Environment & Head Shell Scenarios at Shell, around 85% of all the emissions associated with its activities and products are Scope 3. In 2015 it began calculating its net carbon footprint—i.e. Scope 3—and set a target to reduce it by half by 2050, with executive remuneration tied to interim short-term reduction targets.

Marc Lewis of BNP Paribas Asset Management cites Climate Action 100+, an investors’ initiative set up in 2017 which now has more than 360 signatories,²⁷ as one of the drivers in pushing greater measuring and disclosure of Scope 3 emissions, especially among energy and mining companies.²⁸ “Scope 3 emissions have really started becoming a more important focus of debate in the market over the last two years,” says Lewis.

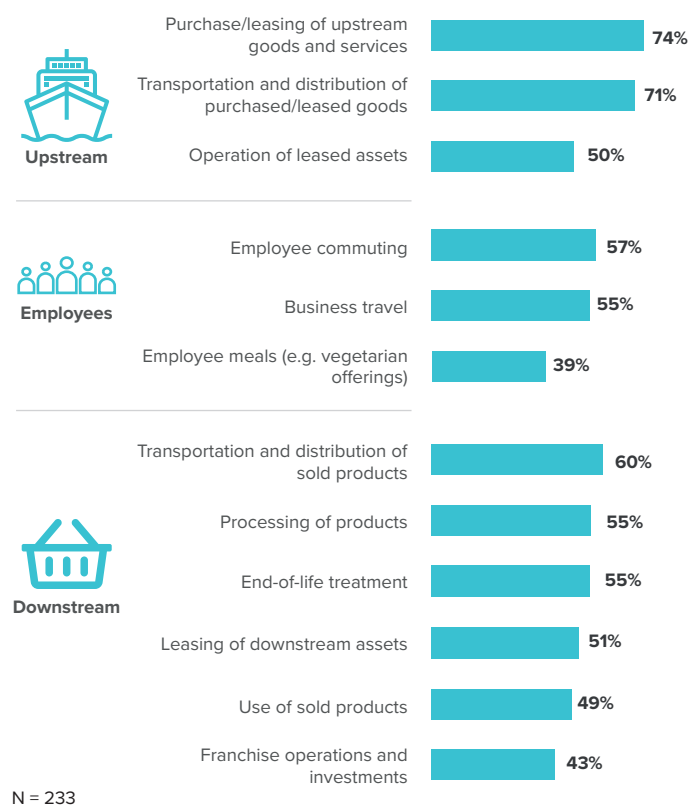
A challenge for other sectors is that Scope 3 emissions are often spread more thinly across supply chains. “If you’re a food company and your products come from many small farms scattered around large geographies, to trace your products and to be able to know the conditions on the ground... that’s very tricky,” says WWF’s Marty Spitzer, adding that improving measurement is one of their areas of focus.

BT has calculated its Scope 3 emissions for the past seven years. They make up around 68% of its end-to-end net carbon footprint. The company is working to reduce its emissions by encouraging suppliers to disclose theirs. “I think people sometimes underestimate how much, as customers and as buyers, we can do with the supply chain,” says Gabrielle Giner.

70% of H&M’s emissions derive from its supply chain, mainly from its factories, which are owned and run by third parties and are often powered by coal-based national electricity grids and boilers with coal or gas as fuel. “Therefore we cannot do direct investments in, for example, solar panels on our suppliers’ factory roofs,” says Kim Hellstrom, Strategy Lead Climate & Water at H&M Group. Instead it has set up a points-based system to reward and incentivize suppliers using clean energy.

Six in ten companies with net zero goals said they will require main suppliers to invest in renewable energy, while all companies said that they are targeting Scope 3 to some degree, especially upstream and in transport, travel and logistics.

Figure 12. Which of the following value chain emissions are you targeting?



“Some people will tell you that at the end of the day the only thing that matters is Scope 1 emissions—because all emissions at some point are somebody’s Scope 1 emissions. But change happens not because those who are producing the Scope 1 emissions today will suddenly decide to stop emitting them, but because the people who are paying for these emissions to be created either directly or indirectly will change their practices.”

— Bruno Sarda, US President, CDP

(In- and) offsetting

Offsetting—buying certificates or investing directly in projects that avoid or sequester emissions—is a vexed topic. Around half of respondents cited problems with verifying the impact of offsets, yet a similar share plans to use them to meet their net zero goals.

CDP moved away from giving companies credit for using offsets, partly owing to measurement problems, but also over concerns that companies were using them to avoid decarbonizing their own operations. The Science-Based Targets initiative,²⁹ for example, does not allow companies to include offsets as part of their commitments.

“You had companies that said ‘we’ve bought enough offsets to offset all of our actual emissions, so we’re carbon neutral’—and of course they weren’t except on paper,” says Bruno Sarda. “We realized at the time they were two very different things. Some offset projects were very good, with robust verification systems, but many weren’t.”

Verification has come a long way in recent years and while experts advise that the priority should be to make all feasible reductions first, there is also broad agreement that offsets will be necessary in many cases while low-carbon solutions don’t yet exist, such as in aviation.

BT has a strict policy of no offsets but Gabrielle Giner says they may have to resort to these to achieve net zero emissions by 2045. “We might need to offset business travel. We are also reliant on diesel backup generators, and we might not be able to find a zero solution.”

Mahindra has been planting one to two million trees in Europe per year, says Anirban Ghosh, though they have not been claiming the credits within the region’s emissions-trading scheme. However, going forward he says they will need the credits for their own operations. “We plan to have a robust forestation program that will help us compensate for energy emissions that we could not convert to renewables and for supply chain emissions which are not addressed by electric vehicles and other measures.”

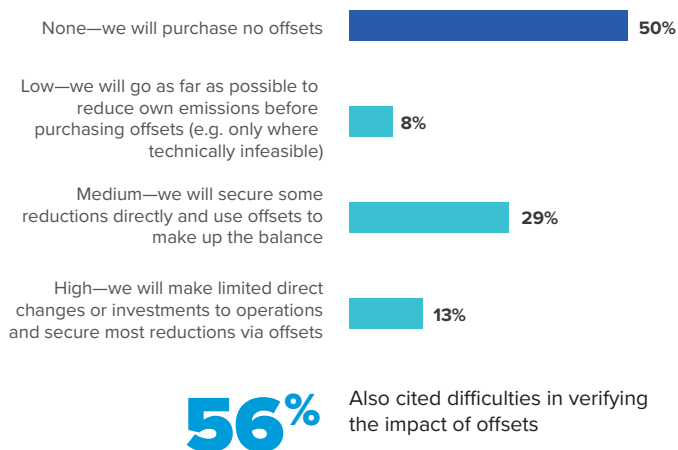
In our survey, six in ten said they would invest in reforestation, while less than five in ten in combating deforestation. Arnaud Brohé, CEO of CO2logic, a consultancy which helps companies create offset projects, says that they try to focus on those that avoid the need for logging in the first place, such as efficient cooking stoves. “Many of our clients, when they think about offsets, they think, ‘oh, we should plant trees.’ But we need to halt deforestation first,” says Brohé.

When choosing offset projects, Marty Spitzer advises on “looking first within your own fence line”, then to “insetting, which are offsets within your supply chain.” The aim is to make direct investments within the value chain. For example, H&M is exploring innovative ways to finance solar power to suppliers’ factories, as part of measures towards its climate neutral target.

“I think that offsets are fraught. I think that there’s always the question of: would this action have taken place anyway? But I also think that there’s potential and they answer questions that a carbon price can’t, for example: protecting forests.”

— Danny Richter, Vice President,
Government Affairs, Citizen’s Climate Lobby

Figure 13. To what extent will your organization make use of offsets to meet its net zero goals?



N = 233

Capturing carbon

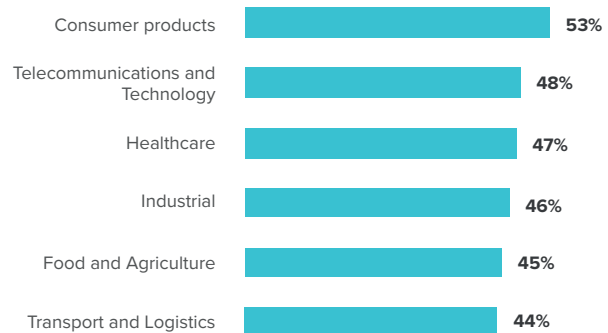
Experts stress that planting new trees is not the same as protecting the carbon stored in boreal forests, while neither is a fool-proof solution, especially as the earth warms. “If you’re paying to preserve a forest for 20 years and you have one lightning strike in a dry period, 20 years of payments goes up literally in smoke,” says Danny Richter.

More long-term means of carbon capture and storage (CCS) are thus an essential part of the net zero transition. Its impact is tiny today, at just a fraction of one percent of annual global emissions.³⁰ Yet our survey indicates that interest is growing. Slightly less than half of companies said they would invest in CCS, similar to those targeting deforestation. Interestingly and though CCS is often associated with direct emitters capturing emissions at the tailpipe, responses were fairly evenly spread across sectors.

One of the reasons is the growing market for using captured carbon. Louise Charles of Switzerland-based Climeworks, a company whose technology captures CO₂ directly from the air, says clients include the food, beverage and agricultural markets looking for a sustainable source of CO₂ (for drinks carbonation, or for use as an airborne fertilizer) as well as makers of synthetic, carbon-neutral renewable fuels. The Climeworks technology uses only clean energy (renewable, or energy-from-waste) and has a net efficiency of 90%.

Climeworks can also store the air-captured carbon underground in basalt rock formations, where the CO₂ is turned into stone within just two years and is thereby permanently removed from the atmosphere. Clients include companies looking to physically remove their emissions from air. Charles says the cost to Climeworks is \$600 per ton of CO₂ captured and stored (by comparison, the price of carbon on the European emissions trading scheme was around \$30 per ton in August 2019³¹) and is currently therefore a solution interesting only to the most sustainably-minded organizations that want to support the scale-up of a promising climate technology. As Climeworks continues to optimize its technology, demand for air-captured CO₂ grows and the price on carbon increases, costs per ton of air-captured CO₂ are set to come down to \$100, or at parity with carbon prices, latest by 2030.

Figure 14. Share of companies planning on investing in carbon capture, by sector



N = 233

THE NET ZERO TOOLKIT

From our interviews with executives and climate experts, we crowdsourced the following elements companies need to have in their toolkit if they want to prepare for—and contribute to—the net zero transition:

Make it the mission

Something that sets leading companies apart is a core commitment to sustainability, embedded within the corporate mission. For example, several years ago, Ingersoll Rand repositioned its business to respond to the climate crisis. “The way we look at sustainability and the reduction of carbon emissions: it’s actually our core strategy. It’s not an alternative, it’s not icing on the cake. It’s incredibly intertwined to our corporate mission and purpose.” says Rasha Hasaneen.

Those companies that have made addressing climate change a core part of their mission also cascade that knowledge throughout the organization, empowering employees to develop solutions. Companies with net zero goals involve more functions in creating solutions and implementing targets than their counterparts, and three times as many companies with a net zero target said they incentivized all employees to meet the company’s climate and sustainability goals compared to those without a target—and perhaps as a result, they also cited fewer conflicts between climate goals and those of their owners or shareholders (see Figure 18).

“Being able to tie it directly to the mission of the organization has been essential. And maybe it’s easier for us because we’re in healthcare and this is a health crisis. But I think every organization needs to be able to make that link if they’re going to make the kinds of sophisticated advances that are needed.”

— Kathy Gerwig, Kaiser Permanente

Figure 15. Which functions do you involve in developing and implementing emissions-reduction solutions?

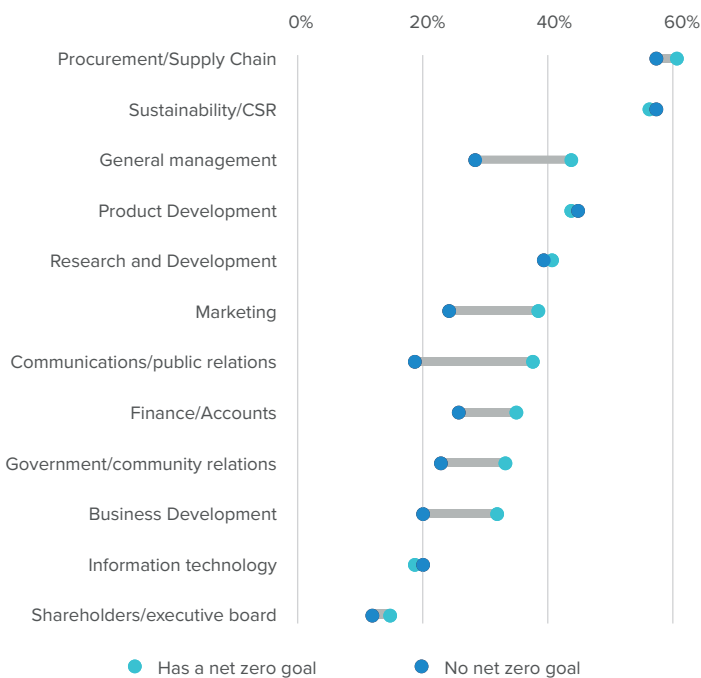
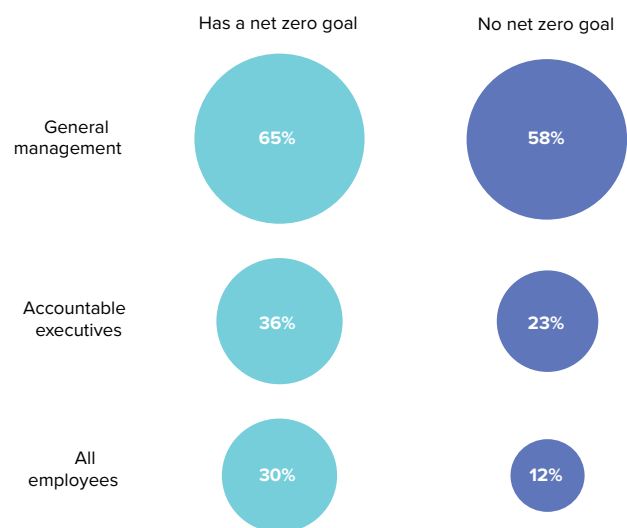


Figure 16. Share of companies linking bonuses to achievement of climate goals, by selected functions



Lead the change

Sometimes it is a leader that sets the mission, or the board elects a leader to set the company in a direction. Whichever comes first, climate leadership matters. One quarter (26%) of companies without a net zero ambition cited lack of corporate leadership as a barrier to greater emissions reductions, compared to just one tenth (10%) of those with a net zero goal.

“There’s nothing that we do which doesn’t have the buy-in from the top,” says Mahindra’s Anirban Ghosh, whose chairman was behind the group’s neutrality target and has been a vocal advocate of the Science Based Targets initiative (SBT). “Their support is what converts initiatives to programs and helps you achieve deadlines.”

This doesn’t mean that leaders need to micro-manage climate strategy. Indeed, companies cited almost equal involvement from executive boards and sustainability leaders in setting strategy (around 70% cited each function).

Climate leadership is not only about driving strategy, it’s also about mitigating risks. “There are really no more excuses for boards who don’t have climate competence,” says Sophie Marjanac of ClientEarth. It’s not just in the interest of their stakeholders and customers but of their shareholders—their financial best interest.”

Figure 17. Top five functions involved in driving net zero strategies

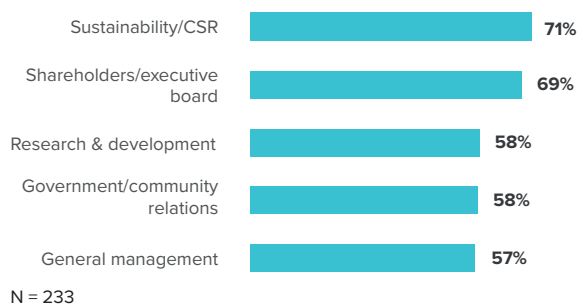
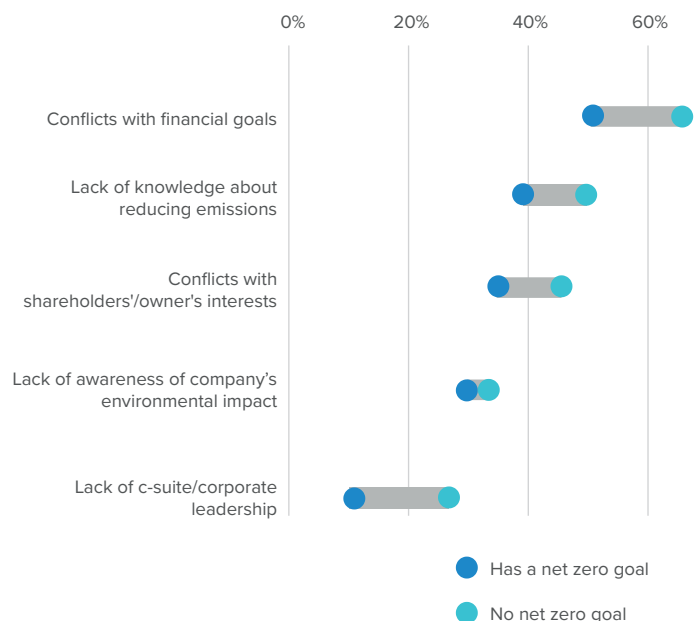


Figure 18. Internal challenges to achieving GHG emissions reductions, sub-set leadership and knowledge



Measure and disclose

Companies and experts alike agree that the first step to developing a strategy is creating a thorough inventory of emissions, including, as far as possible, Scope 3 emissions. “You have to understand where you’re starting from. You need a baseline,” says Scott Tew of Ingersoll Rand.

All respondents to our survey said they use a form of externally-verified tools to measure their emissions—on average four different tools, depending on need.

The Carbon Disclosure Project (CDP) is the leading mechanism, with over half of respondents with net zero targets reporting to it. As Bruno Sarda explains, since setting up almost 20 years ago, more than 7,000 companies now disclose to CDP, representing 50% of global market capitalization. CDP asks companies to report, among other things, “their practices, their impacts, their mitigation strategies and governance mechanisms.”

While disclosing may be a daunting task, especially for high-emitting businesses, it sends a signal that companies aware of their impact and risks—are “climate competent”.

“Often times we hear from first-time disclosers that they have to build a lot of information pathways and decision-making systems in order to actually achieve disclosing to CDP,” says Sarda.

CDP is also the “de facto” basis for setting science based targets (see below) as well as reporting to the Task Force on Carbon-related Financial Disclosures (TCFD), which aims to help investors spot the risks and opportunities related to climate change, thus helping align finance with climate goals.³²

Set the goal

Companies agree that having a net zero target is crucial to setting the direction of travel. Indeed, in our survey, companies that have a net zero goal, in addition to any interim reduction targets, were significantly more confident about achieving their goals than those without a net zero commitment.

Yet this doesn’t mean companies need to reach for net zero tomorrow. The ultimate deadline depends very much on a company’s baseline emissions, the type of industry and the technical possibilities for decarbonization.

For example, Kaiser Permanente plans to be carbon neutral by 2020, while companies such as H&M, Mahindra, and BT are another 10-20 years away. These companies have set science based targets (SBT), which set nearer-term goals anchored to a net zero pathway.

“For us, target-setting has been key to driving the business and changing business behavior,” says BT’s Gabrielle Giner, which was one of the first companies to sign up to an SBT.

SBTs exclude offsets—thereby encouraging companies to prioritize actual reductions first. They also focus, for now, on Scopes 1 and 2, but the same approach can be applied to Scope 3.³³

SBT or not, experts stress the importance of setting an absolute reduction target, as opposed to reducing just the emissions associated with each unit sold or dollar earned (also known as efficiency or intensity targets).

“Absolute targets are important, because if you just set efficiency targets, we are going to miss an opportunity... because we have been keeping improving efficiency for centuries, but it’s not enough,” says Arnaud Brohé of CO2logic.

Figure 19. Measurement and disclosure tools

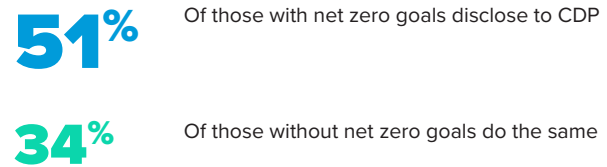


Figure 20. How confident are you that you will achieve your interim targets?

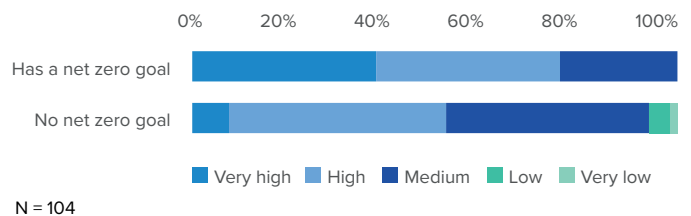
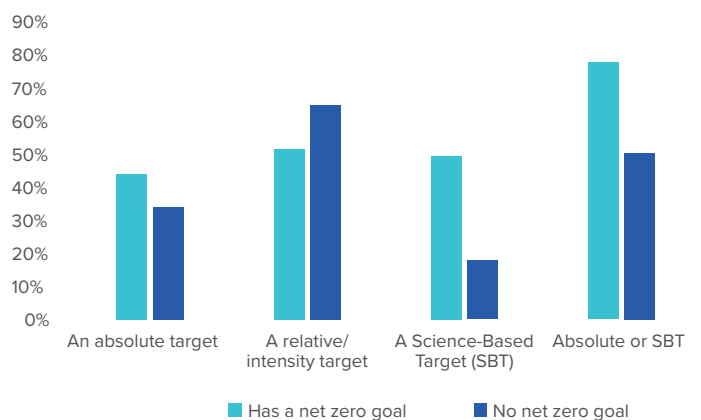


Figure 21. Which kind of target do you have?



“Once you set a bold target that your company gets behind, you should be able to see behavior changes, investment changes, and innovation that leads to new solutions.”

— Scott Tew, Ingersoll Rand

Create incentives

To ensure targets are met, companies need a solid governance mechanism.

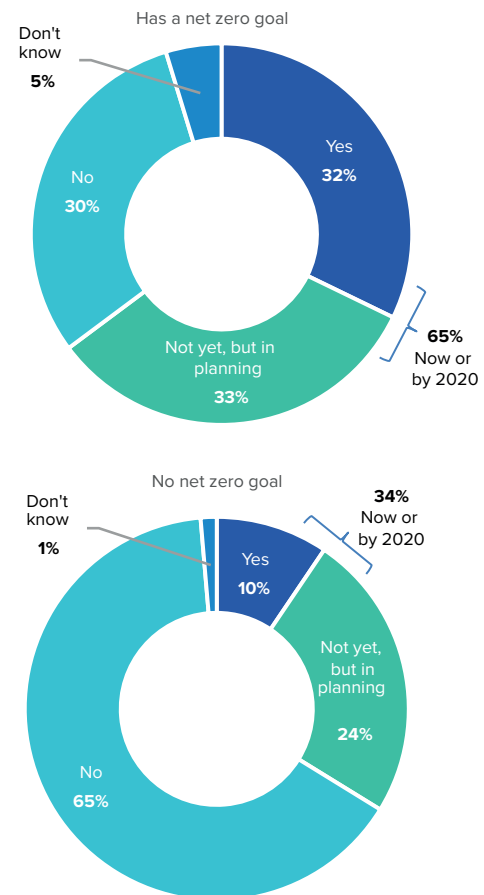
“It’s important that targets have someone or some group that is accountable to developing the plan to hit the target,” says Scott Tew. “We have a CEO-level sustainability target. We use GHG reductions as a proxy globally and that is cascaded to every business leader. And then every business leader, on a quarterly basis reports out their carbon footprint by product category.”

In addition to accountability, most companies have some kind of financial mechanism in place. Almost two-thirds of respondents with net zero goals link management incentives to their targets. A third uses an internal carbon price, and another third is planning to institute one by the end of 2020. Overall, twice as many companies with net zero goals has or plans to use an internal carbon price compared to those without.

Lise Kongo, CEO and Executive Director of the United Nations Global Compact, says that over 1,400 companies have now signed up to their internal carbon price pledge. To stay on course for 1.5°C, they recommend setting a price of \$100 per ton of CO₂ by 2030. However, today, few, if any, companies have gone that far. Shell uses a price of \$40 to \$80, while in our survey—which excluded the fossil fuels industry—the highest was \$35 and the average was \$9 per metric ton.

But even a nominal amount can induce the right behaviors. Mahindra has set an internal price of \$10 per ton of CO₂. “We used behavioral economics of what sort of nudge it would take for the business to adopt low carbon ways of working,” says Anirban Ghosh. “As a result of that, we created a pool of money which was available for investments. In the last three years we’ve actually reduced our specific carbon footprint by 25%. We’ve also reduced our water footprint by 35%. All of this has been funded by the carbon price.”

Figure 22. Share of companies using or planning to use an internal carbon price



\$9

Average internal carbon price, per metric ton

“Setting up a carbon tax on the business gave the operating teams visibility on the amount of money available. They were then able to aggressively pursue technologies that would help reduce the carbon footprint.”

— Anirban Ghosh, Mahindra

Engage the value chain

“You have to engage with your suppliers. There’s no excuse. Nobody can claim to be good at this and just look inside their four walls,” says CDP’s Bruno Sarda.

Tao Jingwen, Chair of Huawei’s Sustainable Development Committee, says he believes ICT, as an enabling technology, can play an enormous role in reducing global emissions. But as global demand for ICT keeps growing, both connections and traffic continue to balloon. This is a challenge the company acknowledges. Between 2014 and 2018, emissions from its own operations almost doubled as it increased capacity (though emissions as a share of revenue fell one quarter in the same period). “Customer traffic has been growing at exponential level, faster than the energy efficiency measures in our products,” says Tao Jingwen, adding that Huawei is working with carriers, suppliers, and other partners to coordinate the entire supply chain’s efforts to combat climate change. The company believes the ICT industry will achieve an 80% reduction in emissions per connection by 2025.

Eric Olson explains that at BSR, they use an “act, enable, influence” hierarchy framework to help their corporate members set an effective climate strategy and goals. “Of course an organization starts with its own emissions—that’s ‘act’—but for many a much larger share of their impact is upstream/downstream where they need to ‘enable’ action by suppliers and partners at scale. Last but not least, without an effective ‘influence’ strategy, companies will not get the enabling policy environment they need to achieve any of these goals.”

With companies increasingly driven to address issues such as community health, employee and consumer activism, whether or not they have set Scope 3 goals, there are other reasons for companies to extend their influence beyond their own ‘four walls’.

For example, Kaiser Permanente provides information to their 12.3 million members about the health benefits of plant-based diets, and walking and cycling, which also reduce carbon emissions. “We know the next frontier is Scope 3,” says Kathy Gerwig, “And we can be a reliable source of information to our members.”

“We cannot achieve [our goals] on our own. We need to work with more partners and we need to be more open to collaboration.”

— Tao Jingwen, Board Member and Chairman of Sustainable Development Committee, Huawei

“If a company like BT says, ‘We’re going to do this’, then we expect other companies to innovate, because they want to supply to BT.”

— Gabrielle Giner, Head of Environmental Sustainability, BT

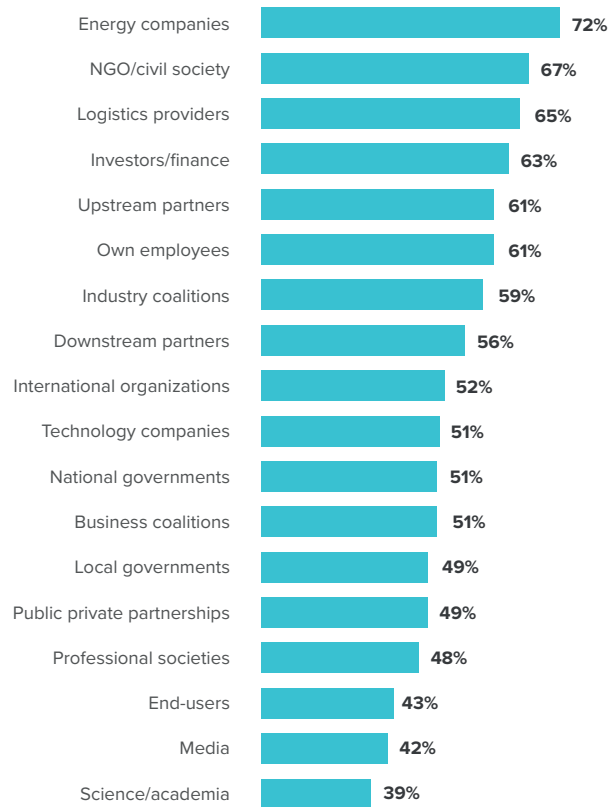
Develop partnerships

In the few years since the signing of the Paris agreement, the number of corporate and investor coalitions has mushroomed as companies and stakeholders begin to understand the scale of the climate challenge.³⁴ On average, respondents with net zero goals listed 10 partners they believe will have a material impact on achieving their goals (from a list 18). The most important are energy companies, followed closely by NGOs. Other key relationships include logistics partners, investors, suppliers—and own employees.

Kathy Gerwig says that partnerships with NGOs and involvement in coalitions such as RE100, a network of companies committed to sourcing 100% renewable energy, form a critical part of her zero carbon toolkit. “Whether you have it in-house or you can contract for it outside, get experts who can really appreciate the nuances of how to structure things, like a power purchase agreement. The details in that turn out to be extremely important on whether or not it will be financially and operationally viable.” Kaiser Permanente also helped found a healthcare alliance with five other health systems and Health Care Without Harm, an NGO, to help influence public policy efforts that can reduce their emissions, such as in building standards for hospitals.

H&M is collaborating with other industry players, often through platforms such as UNFCCC. “Sometimes transparency can be a challenge; all brands are not yet sharing their supplier list and that makes it harder to see which factories we share with our competitors and where we can merge our efforts. We strongly believe that cooperation is the best way to increase the speed of the transition that is needed,” says Kim Hellström.

Figure 23. What kinds of partnerships will have a material impact on your organization’s ability to achieve its targets?



N = 233

“We need companies who aren’t trying to implement by themselves, but are part of larger initiatives. Impactful initiatives that are designed to get us to solutions.”

— Marty Spitzer, WWF

THE ROAD TO NET ZERO

Our research highlights seven hurdles that are currently blocking the road to net zero and where corporations and investors can use their influence to increase the pace of change:

1) Improve accounting

As companies move beyond Scopes 1 and 2, tracking and certifying supply chain emissions will become more critical. However, cohesive measurement standards are still lacking. “The methodologies for measuring baselines and progress on Scope 3 are not as robust as they need to be yet,” says Marty Spitzer, WWF. Around two-thirds of respondents cited missing industry standards as a barrier. In the case of certifying suppliers’ products, a similar share complained that existing programs are too confusing or too numerous. Companies can use their influence to encourage suppliers to track and disclose their impact according to recognized frameworks, and work with NGOs in developing Scope 3 measurement tools.

2) Invest in storage

Renewable capacity is increasing rapidly, however, lack of storage means many operations rely on fossil energy as a backup, hindering net zero goals. “Storage would unlock significant potential as well as grid services that can be costly and high-emitting,” says Mark Porter, Director of REBA, noting that corporate customers frequently want to know the impact of storage when signing renewables contracts. Marc Lewis of BNP Paribas Asset Management sees storage as “the most significant next step” towards meeting the Paris agreement, likening the investments needed as those that have gone into solar over the last decade.

3) Turbo-charge electrification

Though much of corporate focus is on renewable power, electricity makes up just one fifth of energy consumption, and even under optimistic circumstances, this may reach up to one half by 2050.³⁵ Transport emissions are the second-top target area for companies with net zero ambitions. But while electric vehicle take-up is growing rapidly from a low base, electrification of aviation and shipping could be decades away.³⁶ Companies can join initiatives such as EV100,³⁷ to help ramp-up EV demand and infrastructure and explore other coalitions to tackle activities that remain off-grid, such as heating, and to improve energy efficiency.³⁸

“As committed as we are to all this work, none of us believes that voluntary corporate action by itself gets the job done. We have to find a way to take corporate activism, demand signal activity and investments and use it to influence the political game.”

— Eric Olson, BSR

4) Finance green fuels

Even with electrification, alternative fuels will be needed to fill in the gaps. “[Natural] gas is often underestimated. It’s a lot easier to store and transport than electricity,” says Engie’s Judith Hartmann. Engie is investing in “green gas” such as biomethane and biohydrogen, as well as storage—these could be a solution for transport. However, they are expensive. “We have to get the economics right. Five years from now I think we will see that green gas is going to be at the right scale,” says Hartmann. For its part, Engie has issued close to €9bn in green bonds. In addition to raising the visibility of their projects, Judith Hartmann says it raises employee motivation. “They are very proud to have their projects included and have them certified.”

5) Support nature-based solutions

Agroforestry, rewilding, restoring seabeds and peatlands; working with nature holds significant potential to draw down carbon while increasing resiliency to climate risks. “If oceans, forests and soil hadn’t done the job they’ve done to date, we’d be already well beyond two degrees of warming,” says Bruno Sarda, but stresses, as with Scope 3 emissions, that more needs to be done to improve the accounting of nature-based solutions. “They have a huge role to play, especially in a world where carbon is starting to get priced. We’re going to find that actually protecting nature’s ability to do what it does really well is going to make a lot of financial sense.”

6) Mobilize society

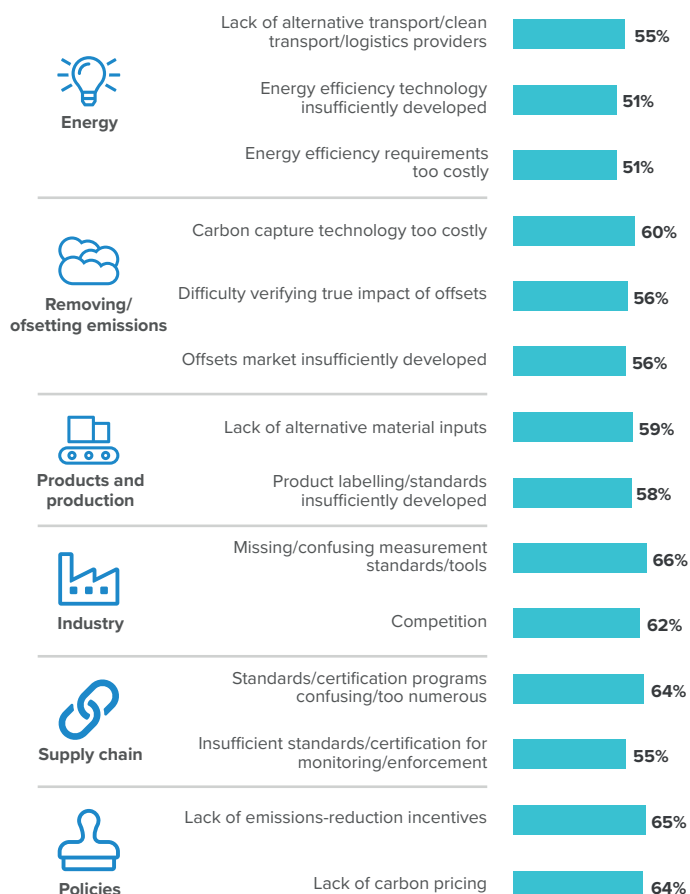
Most companies cite customers as a key stakeholder in driving ambition; but competition from less sustainable rivals can be a hindrance to meeting their goals. The media and political landscape can also play a role in how the climate issue is perceived, which can help change demand signals. Companies in Europe cited the school climate strikes as a far greater influence on ambition than in other regions, even though they have since gone global. Large companies can use their visibility to inform, engage and influence stakeholders including customers, employees and local communities.

7) Lobby for good

Incoherent or missing policies, from incentives to carbon pricing (see Box 2) are among the biggest challenges, not least in the US. BT’s Gabrielle Giner emphasizes the importance of UK government policy to her company’s ambitions.³⁹ “It helps me to go to my Board to say, ‘the government has set a net zero target, so obviously that’s something that it is good that BT is aligned to.’”

Yet some companies’ affiliations are often misaligned with their own policies. Not only is it counter-productive, it is risky, as public scrutiny is now turning to companies signed up to trade bodies whose lobbying stances on climate change conflict with their own ambitions.⁴⁰ “We encourage companies to be very straight and lobby in a responsible way. We don’t want to see companies establishing a climate goal on one hand, and then lobbying against [addressing] the climate issue on the other,” says Lise Kingo of UN Compact.

Figure 24. Selected challenges to meeting net zero goals (top two responses by category)



N = 233

“I think that business has a very strong voice and I think that they have the potential to really move things forward. I think they’ll be competitive in a world where this is the law of the land. So I’m excited about their advocacy, their support and I look forward to seeing more of it.”

— Danny Richter, Citizens’ Climate Lobby

Box 2: Preparing for an effective global price on carbon

Around two-thirds of respondents cited lack of carbon pricing such as a tax or emissions-trading scheme as a hindrance to meeting their goal, while the majority, across industries, said their company officially supported a global carbon price.

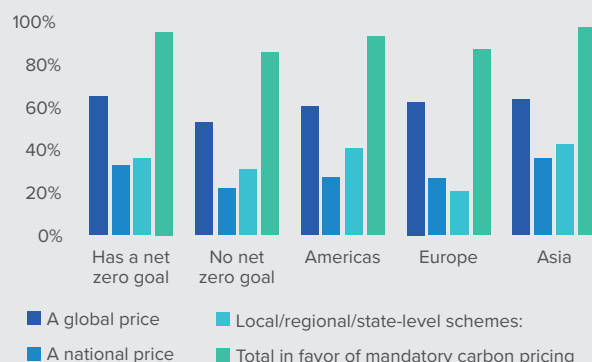
Though there is little movement towards a comprehensive global system, consensus seems to be building around the likelihood that countries and regions will move individually towards carbon pricing together with a “carbon border adjustment tax”.⁴¹ This strengthens the case for setting internal corporate prices.

“If companies are supplying countries who have carbon prices; if they do not decarbonize their supply chains, they’re going to be uncompetitive, they’re going to go out of business,” says Danny Richter, Vice President of Government Affairs of the Citizens’ Climate Lobby.

In the US, despite a decision to pull out of the Paris climate agreement, bipartisan support for a carbon price is growing, according to Richter, whose organization has proposed a carbon fee and dividend scheme that would be applied to producers, with a rebate to households. Their proposal is one of three that have drawn cross-party support.⁴²

Richter says that the current lack of US pricing may be holding down prices in other countries. This means that, if one of the current bills is successful, it could shift prices around the world. “When the United States gets a price, I think you will see the ambition of other countries expand a lot. And I think that that’s where you can get an effective global price; [it] is where you have countries reaching either bilateral or multilateral agreements to match each other’s effective carbon prices.”

Figure 25. Share of companies officially supporting a mandatory price on carbon, by type of scheme and by net zero ambition and region



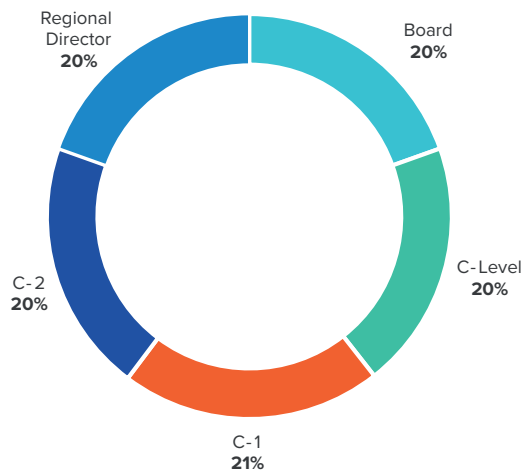
ABOUT THE RESEARCH

The analysis in this report is based on an online survey conducted in July and August 2019 by Newsweek Vantage on behalf of Engie, Ingersoll Rand and its strategic climate brands Thermo King and Trane. In addition, Newsweek Vantage undertook around 20 interviews with executives and experts across science, NGO and policy spheres. We are grateful to all those who took the time to provide insights for this study.

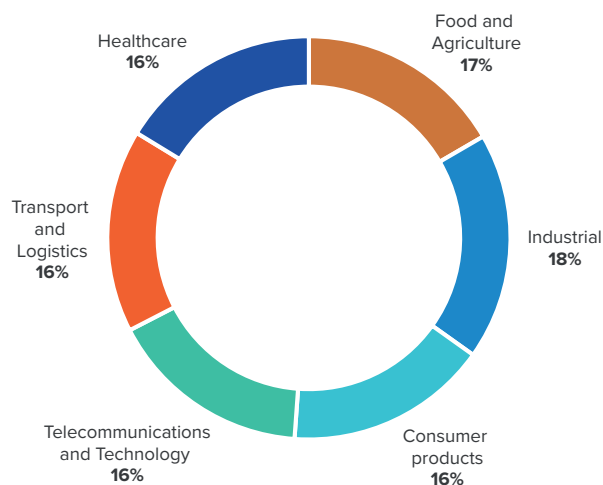
A total of 307 executives were surveyed, representing organizations across six broad industry sectors: food and beverages, industrials, consumer goods, telecoms and technology, transport and logistics and healthcare.

We selected respondents from a market research panel, based in the Americas, Europe and Asia. We targeted all roles but capped the number of sustainability or CSR executives below 20%, in order to achieve a broad range of opinions. The purpose of the survey was not revealed during the telephone screening process. All interviews were conducted on a confidential basis. The base for all figures in this report is 307 (all respondents) unless otherwise stated (e.g. the sub-set of companies with net zero goals is 233). Not all figures that should add up to 100% may do so, due to rounding and/or exclusion of “neither/nor”, “don’t know” and “unable to answer” options.

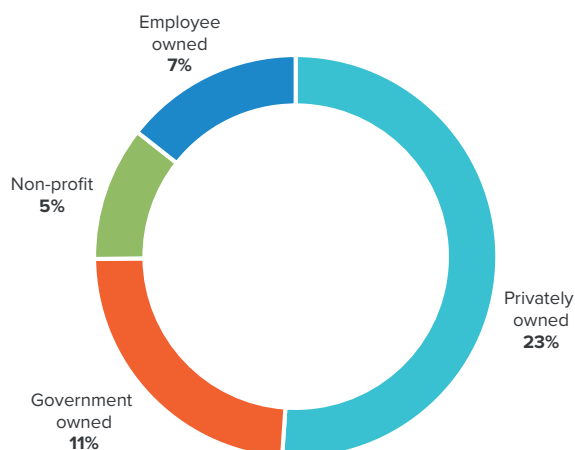
Seniority



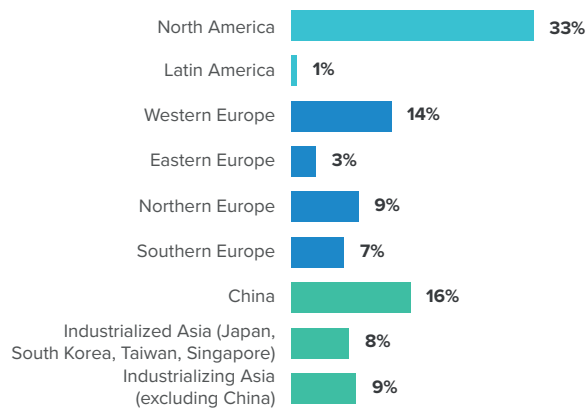
Industry



Ownership



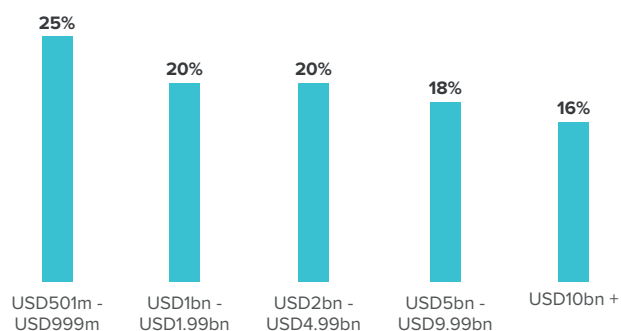
Region



Function



Annual Revenues



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