



Europe's Digital Journey to Net Zero

How the region's leading businesses and public sector organizations plan to harness technology in the race to decarbonization

A PAC Research Study

Commissioned by

NTT DATA

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INTRODUCTION

The last couple of years have been pivotal for many reasons.

But one of the most important and positive legacies of this tumultuous period will be the wave of momentum that has built with businesses making clear commitments to reducing their carbon emissions.

Responding to a groundswell of pressure from investors, customers and employees, organizations from banks to manufacturers have put a flag in the ground and announced strategies to achieve carbon neutral or zero carbon status over the course of the next couple of decades.

One of the most interesting aspects of these plans has been the prominent role that business leaders believe that technology will play in helping them deliver on their targets. From understanding current emissions levels to building new services that help the business transition to less energy-intensive activities, there is a clear point of crossover between digital transformation and decarbonization initiatives.

But how far down the road are European organizations in realizing their decarbonization ambitions and how far do they still have to travel? This study – based on briefings with senior executives at 200 large European businesses across a mix of industry sectors - aims to cut through the hype to build a clear picture of where they stand today and how they plan to move forward in the coming years.

How do organizations measure and track emissions levels today, and how will they respond to the need to extend coverage beyond the walls of their own business and across their wider supply chain? In which areas are they investing today to drive short-term gains and what areas of technology do they think will prove the most important to accelerating their journey?

This report looks at what businesses can learn from the current positioning and strategies of their peers and explores the building blocks that companies are putting in place today to deliver on their decarbonization ambitions.

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KEY FINDINGS



European business leaders view decarbonization as a matter of life-or-death

94% of European business leaders believe that it will be critical to the future survival of their business, while 93% state that it will be vital to their future ability to attract the best talent.



Customers are the biggest factor in shaping decarbonization strategies

84% cite their customers as important drivers in shaping their decarbonization strategy, while 77% also state that regulatory bodies and investment groups are playing a significant role.



But very few companies have a clear view on current emission levels

Just 6% claim to have a “single pane of glass” view on the carbon footprint of their organization, while the majority (94%) rely on manual effort or a patchwork of different technology tools.



Businesses are investing in multiple measures today to reduce emissions

More than three quarters have implemented or are currently rolling out carbon offsetting initiatives, while climate scenario analysis (64%) and “smart” estate infrastructure (63%) are other major focus areas.



The shift to flexible working is viewed as having a positive effect on emissions reduction

Many organizations are still getting to grips with the shift to hybrid or more flexible working models, but the large majority (78%) expect it to have a positive impact on their decarbonizations strategy.



Changing employee behavior will be critical to achieving short-term gains

87% state that changing employee behavior will deliver significant gains to their progress on decarbonization in the next 2-3 years.



Access to talent is expected to be a major challenge to delivering decarbonization

Only one third (33%) believe that they have the talent and skills in-house to drive their strategies, while the remaining 67% acknowledge that they will lean on external partners.



The IT organization is expected to play a pivotal role

Underlining the crossover between digital and decarbonization strategies, 88% of European businesses expect their internal IT function to be a driving force in delivering short-term gains in reducing emissions.



Blockchain is a controversial topic, but the majority see it as a force for good in decarbonization

71% of organizations believe that blockchain will have a positive impact on their decarbonization strategies, with only 11% stating that it will either have a negative impact or doesn't fit with their plans.



STRATEGIES & STARTING POINTS

In this first section of the study, we explore the current positioning of European businesses in terms of the aims of their decarbonization strategies, the factors influencing their approach, and the underpinning structures, stakeholders and incentives that have been put in place.

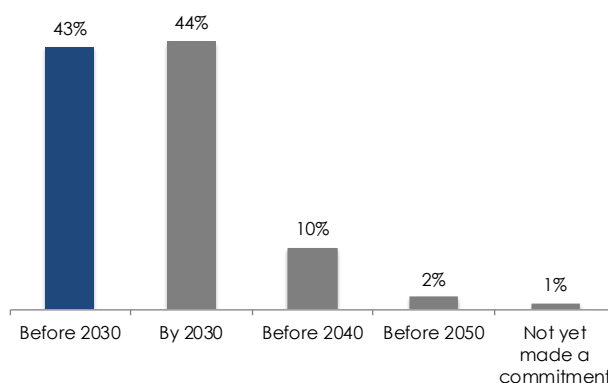
European companies are committing to ambitious targets in achieving net zero status – but some sectors are moving significantly faster than others.

At an overall level, 44% of businesses are aiming to become net zero (or reach a similar science-based target) by 2030, while a further 43% are aiming to get there even earlier. Just 1% of participants in the study stated that they have yet to make a commitment, which underlines the progress that European businesses have made in making decarbonization a central pillar of their corporate strategies.

From a regional perspective, businesses in Germany lead the way with 50% planning to become net zero before 2030, compared to just 35% in the UK. But the most striking differences came at an industry sector level, where 57% of manufacturing businesses are aiming to achieve net zero status before 2030. This suggests that B2B businesses are slightly further ahead of the curve than their B2C counterparts. This is also the target for 50% of telecommunications companies and public sector organizations. Some high-profile examples include **Vodafone**, which has committed to eliminating carbon emissions from its UK operations by 2027, and France's **Orange Group**, whose *Engage2025* strategic plan aims to beat by ten years the GSMA's targets of being net zero carbon by 2040.

But companies operating in those sectors where high carbon emissions have long been an inherent part of their business model are not expecting to move this quickly. Just 23% of transport companies are aiming to reach net zero status by 2030, with a further 23% not expecting to hit this target until sometime between 2040 and 2050. It is a similar story in the energy and utilities sector, where less than a third of organizations anticipate become net zero before 2030.

Fig 1. What is your organization's commitment to achieving Net Zero carbon status?



The importance of decarbonization cannot be underplayed, and the survey reveals that many business leaders believe that it is an existential issue.

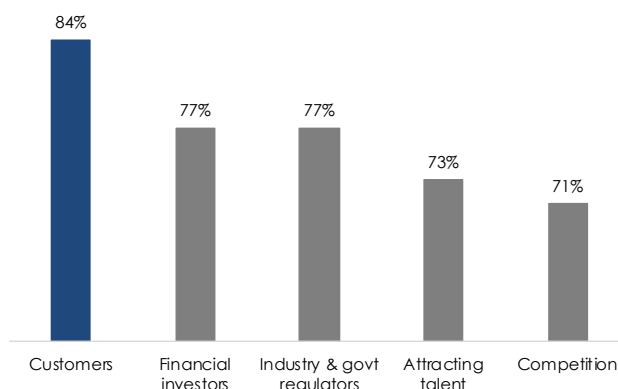
Some 94% agree that it will be critical to the future survival of their business, while 97% state that it will be vital to their ability to secure future investment. Some 96% state that decarbonization has become one of the top strategic goals of their organization, and this is evident in the number of European businesses that have recently appointed dedicated leadership to their boards to oversee the successful execution of their decarbonization and wider sustainability plans, from **HSBC** and **Société General** in the financial services sector, through to **Solvay** and **Syngenta** in the manufacturing space.

But what is encouraging is that many businesses see decarbonization as an opportunity, with 97% believing that it will open up new avenues of potential revenue. Every single one of the manufacturers and all but two of the energy and utilities companies that took part in the study see new top line potential being driven by decarbonization, and there are numerous examples from all across Europe in both sectors of new product and service development in action. Italian coffee producer **Lavazza** recently launched the first range of machine capsules with zero carbon impact, while UK energy company **Drax** unveiled a new platform to help businesses manage their fleets of electric vehicles by providing real-time information on EVs, charge points and energy consumption.

European businesses have been pushed to commit to becoming net zero by a number of factors. Customers are cited by 84% as being a major influence in shaping their strategy, and this is particularly the case in the financial services sector, where 100% of respondents highlighted them as an important driver. At a time when many established banking and insurance firms have struggled to attract new and younger customers in the face of strong digital competition, accelerating the journey to becoming a net zero business is viewed by many as a potential game-changer. A group of 80 leading European banks and asset managers including **Santander**, **Lloyds** and **Zurich** recently created the *Glasgow Financial Alliance for Net Zero (GFANZ)* alliance, through which they have made a commitment to cutting the carbon content of their assets by 2030.

Financial investors and regulatory bodies are cited by more than three quarters of the study participants as key groups that are influencing their net zero planning. Understandably, it is the financial services organizations that see the role of investors as particularly important (93%) to their decarbonization strategies, while transport operators (97%) and energy and utility companies (93%) are the most influenced by industry and state regulators. Decarbonization regulation remains at an early stage across Europe, but businesses are aware that will increasingly be held to task on their progress. This is particularly the case in Germany where 95% of companies across all sectors see regulators as a key driver for change, which reflects the country's status as being one of the most advanced in Europe in climate action law. It is currently targeting carbon neutral status by 2045, with annual reduction targets to be introduced from 2030.

Fig 2. What are the drivers shaping your organization's decarbonization strategy?



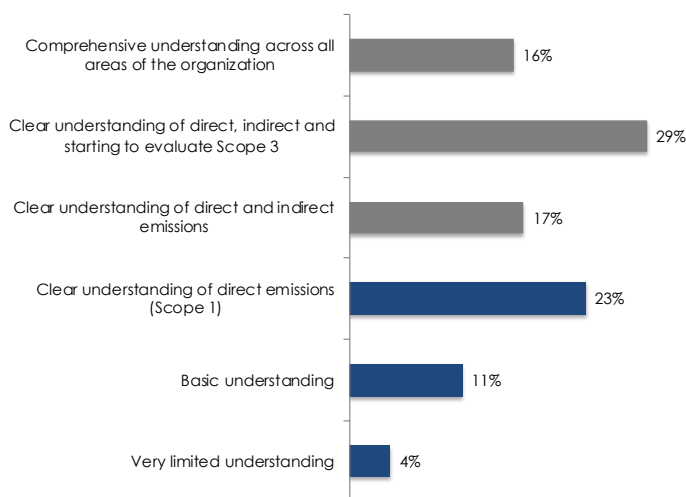
In order to create and deliver a successful net zero strategy, it is essential to have a clear understanding of the starting point.

And while some participants in the study have a bullish self-assessment in terms of their visibility on emissions levels both in terms of their direct operations (Scope 1) as well as their indirect emissions (Scope 2) and those resulting across the wider supply chain (Scope 3), the reality is that only a small proportion believe that they have a clear view across the board.

Just 16% of organizations claim to have a “comprehensive understanding” of their emissions levels across the board. This group was led by the energy and utilities firms, where 23% claim to have this level of transparency. Monitoring emissions has been common practice in this sector for decades and operators are now being forced to build a clear picture of their wider carbon footprint in order to adapt their core activities to new market and regulatory demands. Oil giant **BP** reported that its greenhouse gas emissions, including Scope 3 emissions from the combustion of its products (such as when motorists run cars on its fuel), fell by 10% to around 374 million tonnes of carbon dioxide equivalent in its most recent financial year.

Other sectors have further to travel to build this rounded view of emissions. Only 10% of study participants in both the retail and the financial services sector claim to have a complete picture, and both these industries face particular challenges in tackling this issue. Financial services companies have to mine huge volumes of reports from the businesses in which they invest to understand their extended carbon footprint, and not all of their assets have full transparency into their own emissions levels themselves. For large retailers, the challenge is to understand emissions levels across the entire supply chain and product lifecycle, which can be a huge undertaking. Spain’s **Inditex**, which is aiming to achieve net zero status by 2040, is aiming for all of the cotton used in its clothing to be more sustainable or recycled by 2023.

Fig 3. How would you describe your current understanding of your emission levels?



Key Takeaways: *If your organization has yet to make a commitment to achieving net zero status, you are very much in the minority. Different sectors are moving at a different speed, but business leaders should not set their expectations on how they can and should progress to net zero status based on the plans of their immediate peers. There is much to be learned from companies in other sectors in how “horizontal” aspects such as working practices and company culture can be addressed. The demands placed on businesses to build a clear picture of their emissions levels will be exacerbated by pressure from regulators, investors and customers, but few organizations have been able to achieve this transparency to date.*



CURRENT TACTICS & CHALLENGES

In the second section, we look at the tactics and investments that European businesses are deploying to support decarbonization today and explore the challenges they believe they will need to overcome in the future.

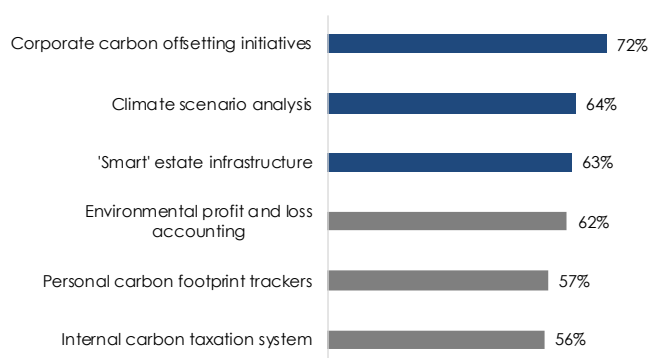
Decarbonization strategy leaders are attacking on multiple fronts.

The study identified six key areas of where we see considerable investment being channelled as part of decarbonization strategies, and found that adoption was strong across all the key industry sectors. Corporate carbon offsetting schemes have substantially increased in availability in the last decade, and almost three quarters of the study participants (including 83% of public sector organizations and 73% of transport operators) have either implemented or are currently rolling out offsetting initiatives. **Lufthansa** has launched a voluntary carbon offset programme in a partnership with Compensaid, while **Air France** offsets all domestic flights and also offers passengers the chance to offset flights through the *Tree and Trip* programme.

Close to two thirds of European businesses (64%) have implemented or are currently implementing climate scenario analysis, including 85% of public sector organizations. Government bodies are increasingly aware of the need to consider climate risk in planning decisions, to inform policy and to build into their state debt management strategies. “Smart” or more energy efficient and automated estate infrastructure has been deployed or is a work in progress at 63% of organizations, including 66% of manufacturers. **Siemens** is currently investing €63m in transforming its global Smart Infrastructure headquarters in Zug, Switzerland, into a carbon neutral location by 2023.

The use of personal carbon footprint trackers has been accelerated by the shift to flexible working during the pandemic, and 57% of European business (including 77% of energy and utilities companies) have them set in motion today. It is also encouraging to see that perhaps the two most challenging of the six areas – environmental profit and loss accounting and internal carbon taxation schemes, are also being deployed by more than half of the study participants. Indeed, 100% of financial services companies have the former area on their radar – either as a current or future initiative – while almost two thirds (63%) of energy companies are implementing the latter.

Fig 4. What measures have you implemented or are currently implementing as part of your decarbonization strategy?



Another major positive to take from this research is that decarbonization strategies are being backed by substantial budgets. The participants were asked what proportion of their department’s budget was being dedicated to decarbonization. Close to three quarters of respondents stated that between 5% to 10% was being channelled into this area, which is an encouraging given the diversity of functions represented in this study. Only a quarter (26%) of the participating C-suite executives (CEO, CMO, COO) said that less than 4% of their annual budget was being invested in decarbonization, while just 12% of the Chief Digital Officers/CIOs said their decarbonization budgets were less than 5% of their overall spending plans.

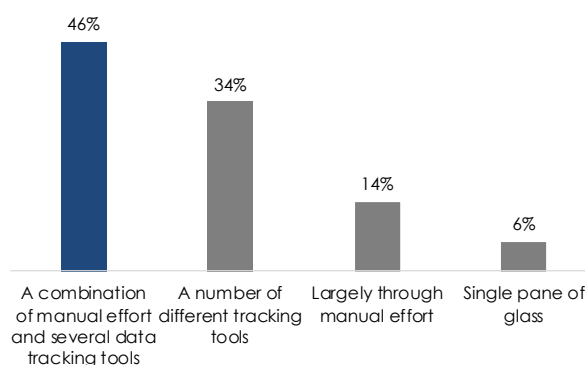
This underlines the hugely important role that technology is expected to play in the journey to net zero, and is evident in recent announcements from organizations such as Spanish energy giant **Repsol**, whose five-year, €19bn decarbonization investment programme will include the “digitization of operations to improve asset efficiency”.

As we discussed earlier, one of the biggest challenges facing businesses is to track, monitor and report on emissions data across the organization. One of the biggest issues identified by the study is that very few (just %) claim to have a “single pane of glass” that provides a consolidated view across all operations, and the larger proportions rely on either a mix of manual effort and multiple tracking tools (46%) or a patchwork of technology tools (34%). Worryingly, more than a quarter of financial services company (27%) and one fifth of manufacturers (20%) admit that they rely largely on manual effort to track their emissions data.

This is already an inefficient approach to produce once-a-year progress updates, but will become untenable as leadership, regulators and other stakeholders expect more thorough and regular analysis. The UK is one country where the primary financial regulatory body the **Financial Conduct Authority** is pushing for more transparent disclosures on decarbonization progress as part of the financial reporting cycle. Italian energy giant **ENEL** has committed to spending €160bn in decarbonization and electrification efforts, which include a continuation of the migration to a more efficient cloud-based digital infrastructure and the Digital Plant project, which has seen the installation of smart, connected sensors to improve the efficiency of its power plants.

Businesses face a choice in the standard methodology they adopt to collect data and calculate emissions, but the study identifies two clear favourites. The World Resources Institute/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas (GHG) Protocol leads the way with adoption across 58% of study participants, with the International Financial Institution (IFI) Framework for Greenhouse Gas Accounting a close second (52%). Organizations are using a range of standards, with 37% also using the Intergovernmental Panel on Climate Change (IPCC) Guidelines to support data collection across parts of their organization. This flexibility may prove increasingly valuable as regulatory demands on emissions reporting tighten, and organizations find themselves required to follow different methodologies by region or industry sector.

Fig 5. How does your organization currently track its carbon footprint?



What are the main challenges to achieving net zero status that European businesses have identified from their current decarbonization efforts?

The study found that strategy leaders still believe that securing the right level of support from the board is perceived as a stumbling block by as many as 71% study participants. This is a particular challenge for organizations in the transport sector (83%), who continue to wrestle with multiple financial and operational issues following the impact of the pandemic. Just 50% of stakeholders in the retail industry view it as a significant challenge, and with pressure growing from customers for brands to deliver real progress on sustainability, we are seeing some of the most interesting decarbonization initiatives playing out in this sector. Supermarket chain **Asda** has become the first supermarket to trial electric assisted vehicles in the form of assisted cargo bikes, while competitor **Sainsbury's** became the first UK supermarket group to switch to lithium-ion pallet trucks.

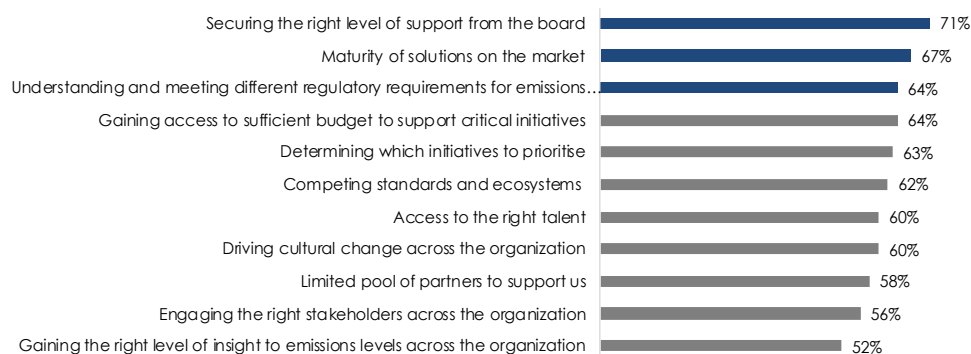
The second most significant obstacle to decarbonization identified in the study is the lack of maturity of solutions that are available in the market, which was highlighted by more than two thirds (67%) of participants. While we have seen an explosion in the availability of decarbonization technology, from emissions tracking data platforms to carbon capture and storage systems, it is clear that many businesses are concerned that they lack proven experience in the field. As we explore later in the study, this is a key reason why businesses are looking to work with partners to help them navigate and harness the best possible solutions from the ever-expanding supplier ecosystem.

One of the more interesting challenges that was highlighted by the study was how to drive cultural change across the organization. Some 60% of participants believe this to be a significant challenge today (including 70% of manufacturers), but few companies that have announced major net zero commitments and related investments in recent months have specifically called out the cultural aspect – how they will change their workforce's day-to-day behaviour to drive a positive impact on emissions. Global engineering giant **Jacobs** now offers its entire workforce a Climate Solutions Accelerator course, a 90-minute online course designed to educate participants on climate change and the actions that can mitigate its impact before it is too late.

One new challenge posed to decarbonization strategy managers has been the adoption of more flexible and remote working patterns over the course of the pandemic, with most organizations planning to maintain a much more open approach in the future. One of the largest players in the global telecoms market, **NTT Group**, has committed to allowing its 320,000 staff to work remotely, while Germany has become the first country in Europe to make it mandatory for workplaces to offer staff the opportunity to work from home as long as there were "no compelling operational reasons for not doing so".

But the impact on decarbonization is still uncertain. There has been a widespread feeling that having fewer employees commuting to central offices will automatically have a positive impact, but is this being offset by activity in the home or remote working locations?

Fig 6. What will be the main challenges facing your decarbonization strategy?



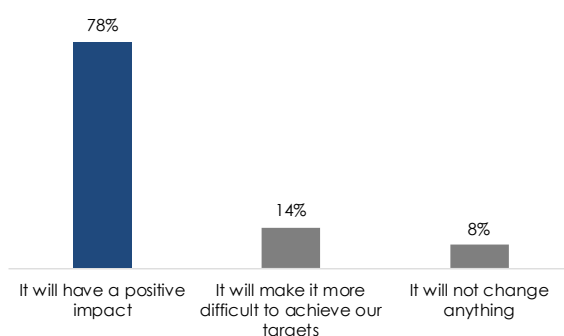
The study found that the perception is that flexible working is a force for good.

More than three quarters believe that this shift will have a positive impact, with 90% organizations in the financial services sector believing it will support their decarbonization ambitions. Investment group **Standard Life Aberdeen** highlighted some interesting fallout from its own switch from having less than 1% of its employees working from home to having 95% during the pandemic. While travel fell as a proportion of its carbon footprint from 65% in 2019 to just 14% in 2020, homeworking suddenly surged to account for 55% of emissions. However, the company's leadership remains confident that long-term increased homeworking can help to support its net zero ambitions, and it has invested in areas such as providing staff with personal carbon tracking apps and offering them the opportunity to lease electric vehicles through the company.

Other sectors are not as bullish, with 27% of retail executives and 23% of participants from the transport sector expecting increased remote working to have a negative impact on their progress to net zero. Neither sector had a historically strong level of flexible working, but for retailers, with more customers shopping from home rather than in physical stores, they now have to handle increased fulfilment of digital orders in an energy efficient way. One interesting example comes from Germany, where **Flink**, a Berlin-based on-demand grocery ordering service which offers delivery within 10 minutes via bicycle couriers, has raised \$240m in funding after just six months operation.

There are some interesting trends by region as well, with a quarter of companies based in Germany expecting the shift to home working to drag back their net zero plans. The country has been a relative laggard on remote working within Europe, and many within its huge manufacturing sector are making a concerted push to improve the power efficiency of their central production sites. Automotive components supplier **Schaeffler**, which is aiming to make all of its production activities carbon neutral by 2030, recently opened a new site focused electro-mobility products, that uses electricity supplied by photovoltaic arrays in combination with rooftop solar panels, which together will save up to 4,000 metric tons of CO2 annually. Businesses want their workers on-site to in order to harness the full potential of these investments.

Fig 7. What impact do you believe the shift to more flexible working models will have on your decarbonization strategy?



Key Takeaways: *Ambition is being backed up by action. European businesses are matching their promises on achieving zero carbon status with investment in a variety of solutions, from carbon offsetting schemes to smart buildings infrastructure. This is being backed up by significant funding, although many organizations still identify getting the full backing of the board as an important blocker to building momentum.*

While concerns over the maturity of decarbonization solutions are a key concern, it is encouraging that the majority of participants acknowledge the need to transform the culture – and to roll with the lasting shift to more flexible working models - in order to speed their journey. People will ultimately be the biggest catalyst for driving the transition to net zero.



FUTURE PLANS & INNOVATION

In the last section of the research, we take a forward-looking view at how European businesses plan to invest in harnessing technology to accelerate their decarbonization journey in the coming years.

For most organizations, the journey to net zero will take a decade or more.

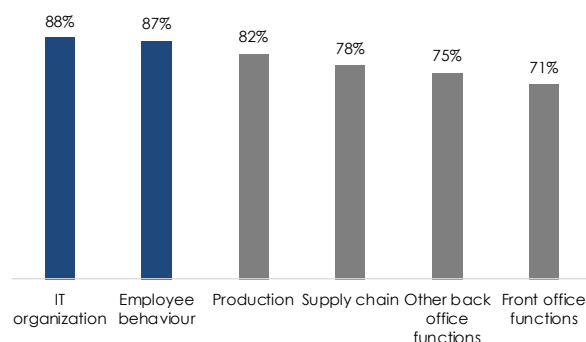
But in order to build momentum, progress need to be delivered in the next couple of years. So which areas of their organizations to business leaders expect to deliver the clearest short-term gains?

The IT organization has a massive role to play, with 88% stating that it will be vital in driving decarbonization gains in the next two to three years. A huge 95% of participants in the telecoms sector believe that their IT organization will lead the charge, just ahead of 93% of executives in the financial services sector. **BT Group's** Chief Digital Impact & Sustainability Officer recently announced that the UK operator would bring forward its net zero target from 2045 to 2030, with key elements of the plan including the retirement of legacy communications networks and an enhancement of its carbon reporting processes.

The second big factor that businesses believe will deliver short-term gains is employee behaviour, with 87% of all study participants and 93% of executives in the manufacturing sector believe that this will have a significant short-term impact. Education is key, and Spanish banking giant **BBVA** has put 75,000 of its employees have through a training programme climate action and inclusive growth in just 12 months. Another option is to provide employees with the opportunity to take an active role in driving change, and UK transport group **Stagecoach** is one of many companies that has established different employee steering groups to drive more sustainable working practices.

It is interesting that the supply chain is only viewed as the fifth biggest area of opportunity for driving short-term gains, but this is consistent with the findings earlier in the study that most organizations are only starting to look at tackling their carbon footprint outside of the walls of their own business. Manufacturers (87%) and retailers (83%) see the biggest short-term potential in their supply in driving decarbonization, and these two sectors have been among the most active in addressing emissions across their supplier base.

Fig 8. Which areas of your organization do you believe you will deliver the greatest short-term gains in driving decarbonization?



With the IT function expected to play a leading role in the journey to decarbonization, what are the most important technology building blocks that businesses believe they need to put in place?

Top of the list are central emissions tracking platforms, which more than half (52%) see as an essential piece of the foundations of their net zero strategy. Close to two thirds (63%) of retail organizations highlighted these platforms, which can help to provide the single pane of glass on organization-wide emissions that few companies have in place today, as being particularly important. Larger retailers operate sprawling physical estates and the ability to centralize the monitoring and management of emissions data can save many employee hours in consolidating figures from multiple sites.

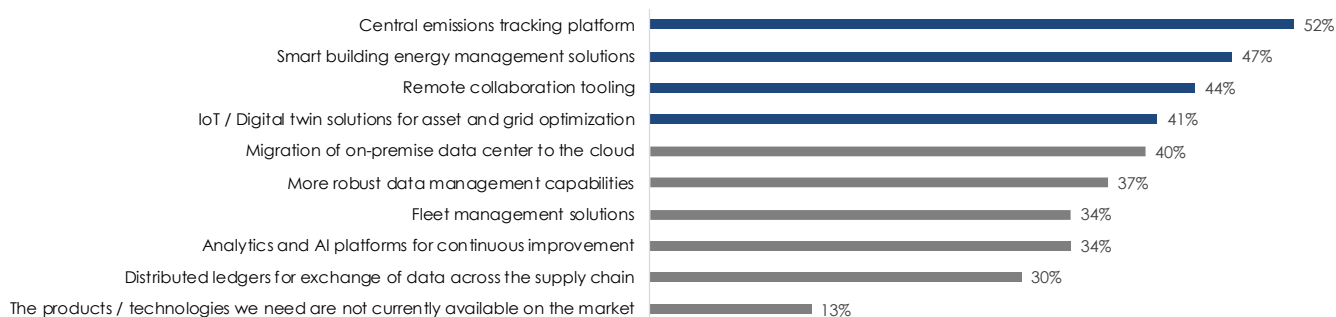
The next most highly prized technology solutions are smart building energy management systems (rated as key by 60% of energy and utility businesses) and remote collaboration platforms, which are viewed as particularly important by participants from the public and health sector (60%). But one area where the business case for adoption really came into its own during the disruption of the last couple of years is IoT/digital twin technology to support asset optimization. Some 60% of energy and utility companies believe that this will be critical in driving short term gains, and Spain's **Iberdrola** has used virtual replications of key assets to optimize the performance of gas turbines at production sites and without the need for engineer intervention, enable them to adapt to different climatic conditions and energy demands.

Another area of digital transformation that has been on the radar of many organizations in recent years is blockchain. There has been a groundswell of initiatives in the cryptocurrency space designed at improving their emissions levels, and in recent months, the **Elrond** network, which has a capacity of 15,000 transactions per second, became the first carbon negative blockchain in Europe. More than two thirds (71%) of respondents believe that blockchain can have a positive impact on decarbonization, with 80% of companies in the energy and utilities and telecoms segments believing it can be a force for good.

The most prominent use of blockchain to date has been in enabling the use of cryptocurrency, and recent studies have shown that this can be extremely wasteful in its use of energy. However, the number of interesting use cases to support sustainability are also ramping up.

Commodities trading firm **Trafigura** is using blockchain to provide carbon emissions tracking and traceability to nickel and cobalt supply chains. In the retail sector, **Costa Coffee** is trialling blockchain as a way to reduce waste, by enabling customers to join a scheme through which they can use a reusable cup that is linked to their account and return it to a different store where it can be washed and used again by a different customer. The initiative, called BURT ("Borrow, Use, Re-Use, Take Back) is built on blockchain technology.

Fig 9. Which technology building blocks need to be in place to accelerate your decarbonization strategy?



How prepared do European businesses feel in terms of their ability to deliver their decarbonization strategies based on their current skills and resources?

Only one third (33%) of participants believe that they have a sufficiently strong internal team to deliver their decarbonization strategy, while the remaining two thirds will lean on external partners at various stages of their journey. Some 16% will work with internal partners until they scale their internal team, while almost one half (49%) will continue to work with partners over the long term to fill in the gaps in their capabilities.

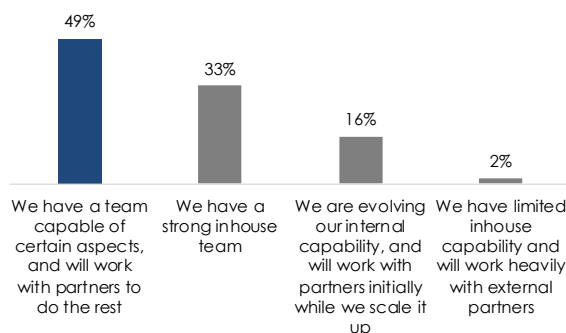
The reality is that all sectors will hit major talent shortages as they look to scale key decarbonization initiatives. In the manufacturing sector, research and innovation community **EIT InnoEnergy** has identified a shortage of 800,000 skilled workers in developing low-energy batteries across Europe that will need to be filled in order to meet market demand by 2025. In the UK, the **Energy & Utilities Skills Partnership** recently stated that the E&U sector is facing labour market demands and skills challenges that will require the recruitment and training of 277,000 people to support the sector's decarbonization journey over the next decade.

Businesses are looking to work with a diverse ecosystem of partners to speed their net zero journeys.

More than three quarters (77%) rate environmental consultancies as having strong capabilities to support their requirements, while 71% view software vendors as bringing valuable skills and expertise to the table. On the software side, PAC has tracked a stream of deals for carbon data management platforms and smart buildings connectivity systems, as well as a growing number of companies entering into large framework relationships with public cloud providers to provide them with the raw processing and analytics toolsets to support their decarbonization strategies. For example, **BP** is working with Microsoft Azure to accelerate the former's journey to more power efficient cloud platforms and to co-innovate on areas such as smart cities and clean energy parks.

But one of the challenges identified in the research is that executives are wary of the maturity of today's decarbonization technology solutions. As a result, 70% of participants also see the value in working with an IT services provider to help them identify the best available offerings from the global marketplace, and to ensure that they are harnessed in a secure, effective way that aligns with their existing systems and accelerates their zero carbon momentum.

Fig 10. To what extent do you have the talent and skills to drive decarbonization in your business?



Key Takeaways: *The IT function is expected to do a lot of the heavy lifting in building early momentum in the journey to net zero. Businesses have identified several key building blocks that technology leaders will be tasked with implementing, with the ability to provide a centralized view on emissions levels at the top of the list. Despite recent headlines, there is widespread positivity about the potential role that blockchain can play in supporting decarbonization, while there is also a general acceptance that net zero will have to be a team effort, with internal experts working alongside the best skills and capabilities available in the supplier community.*



CONCLUSIONS & RECOMMENDATIONS

The study serves as a timely check point for the state of decarbonization in Europe, following a wave of bold promises from the region's leading businesses on achieving net zero status.

There are several sources of encouragement. The call for urgency on tackling emissions has been met with all but a small handful of organizations yet to make a clear commitment on their net zero timeframe. Pressure for change is coming from all sides, and business leaders are responding with significant levels of funding and investment is already being channelled into multiple decarbonization initiatives and solutions.

Possibly the biggest positive to take away from the findings is the number of organizations that view the journey to net zero as an opportunity rather than just yet another compliance challenge. Decarbonization is viewed as a critical challenge that could spell the difference between survival or failure, but could also open new possibilities in creating new products and services or driving improved customer loyalty.

However, the study also exposes a number of major challenges that need to be addressed sooner rather than later. Despite significant budgets being made available to support net zero initiatives, executives in some sectors believe that they still don't have the full backing of the board, notably in those markets that continue to tackle ongoing operational challenges triggered by the disruption of the last few years. Another major challenge is the lack of clear understanding of emissions across the organization – and beyond. Only a small proportion have a consolidated, 360 view of emissions data across the board, with most reliant on a mixture of manual effort and multiple tools. As regulators and investors turn the screw in reporting requirements, these approaches will no longer be sustainable, and it is no surprise to see that central emissions tracking systems are perceived as a critical requirement.

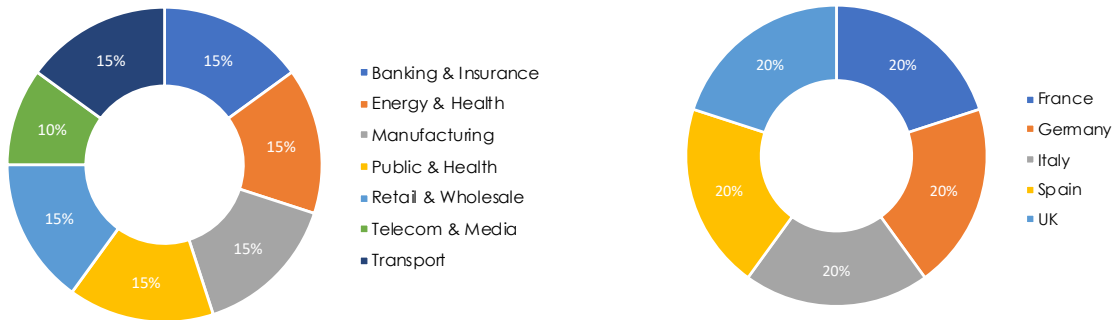
There is going to be a heavy burden placed on the shoulders of the IT leadership team, with the technology function expected to be the primary source of gains in the next phase of the net zero journey. Getting to the heart of the critical data challenge, while harnessing the potential of blockchain, smart buildings systems and digital twins will be a daunting undertaking, but there is an appreciation that working alongside external partners will be critical to ease the burden on stretched internal teams. These partners will play a crucial role in providing the operational support to help organizations create a roadmap and – given the immature and fluid nature of standards and regulatory requirements - a framework within which to innovate at a technology and a business model level.

Technology alone will not deliver net zero and there is a widespread appreciation of the need to drive a change in the day-to-day behaviour of the workforce. At a time when many organizations continue to adapt to new working practices, now is the time to drive a deeper, lasting cultural change. By reframing decarbonization as an opportunity, rather than an obligation, organizations can tap into the growing enthusiasm from staff and customers, and build new momentum on the path to achieving net zero.

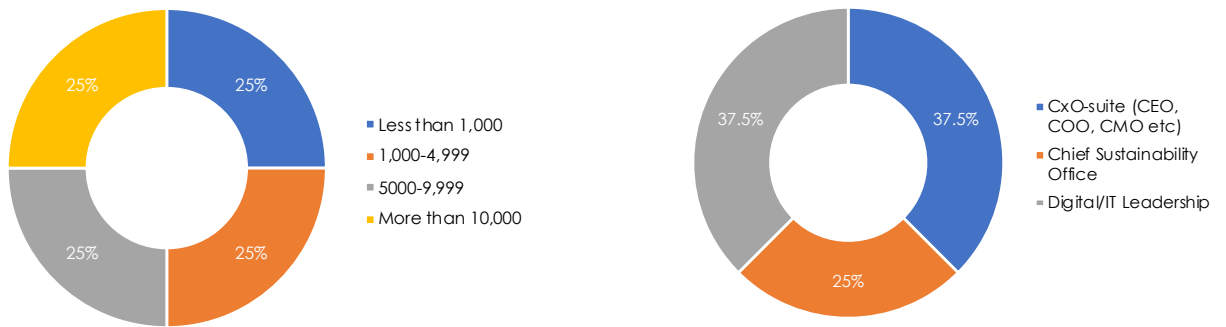
METHODOLOGY

The findings of this study are based on a survey of senior business and technology executives at 200 large and medium-sized organizations based in Europe. All of the participants play a significant role in driving their company's decarbonization strategy. The survey was run in September 2021. A breakdown of the survey sample by industry and region can be found below.

Breakdown of Sample Group by Sector and Region



Breakdown of Sample Group by Size (No of Employees) and Role of Participant



ABOUT NTT DATA

NTT DATA – a part of NTT Group – is a trusted global innovator of IT and business services headquartered in Tokyo. We help clients transform through consulting, industry solutions, business process services, IT modernization and managed services. NTT DATA enables clients, as well as society, to move confidently into the digital future. We are committed to our clients' long-term success and combine global reach with local client attention to serve them in over 50 countries.

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