



SOLVING THE **CARBON EMISSIONS** **MANAGEMENT** ISSUE IN NET ZERO

Produced in association with:



INTRODUCTION

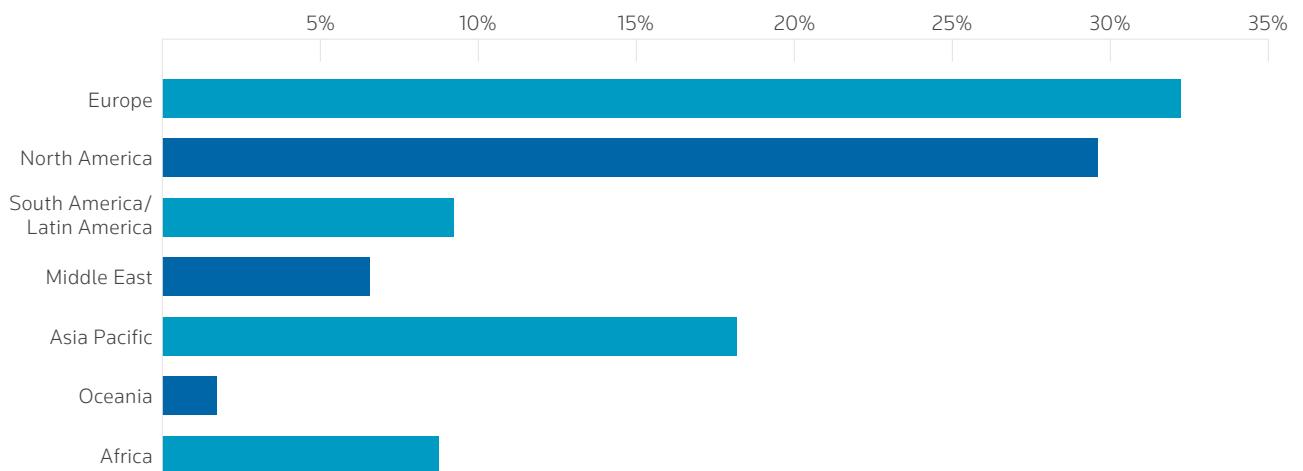
Corporations looking to implement net-zero emissions plans are realizing the truth of the old adage that you cannot manage what you cannot measure. The will to cut emissions is there, but the comprehensive data sets needed to enable net-zero pathways are lacking. “Financial market participants face a lack of high-quality, reliable and comparable data needed to efficiently price climate related risks and avoid greenwashing,” said the International Monetary Fund in August 2022.¹

This lack is becoming more evident as companies move from making emissions reductions pledges to implementing strategies for carbon footprint reduction, and as regulators step up efforts to ensure accountability around environmental claims. In the United States, the Securities and Exchange Commission (SEC) has proposed new climate disclosure regulations that build on voluntary codes already being adopted by many listed entities.

The new rules aim to enhance and standardize climate-related disclosures for investors and their implementation is expected to begin in 2023.² In the European Union, meanwhile, a Corporate Sustainability Reporting Directive entered force in 2023 and will be applied from 2024 across an estimated 50,000 companies, affecting reports issued in 2025.³

GRAPH 1: CARBON EMISSIONS MANAGEMENT SURVEY, BREAKDOWN OF RESPONDENTS BY REGION.

Source: Reuters Events



Such moves will make it increasingly a requirement for companies to have an audit of the sustainability information they report. Providing this information is challenging for two reasons, however. The first is that certain types of emissions data are inherently difficult to collect.

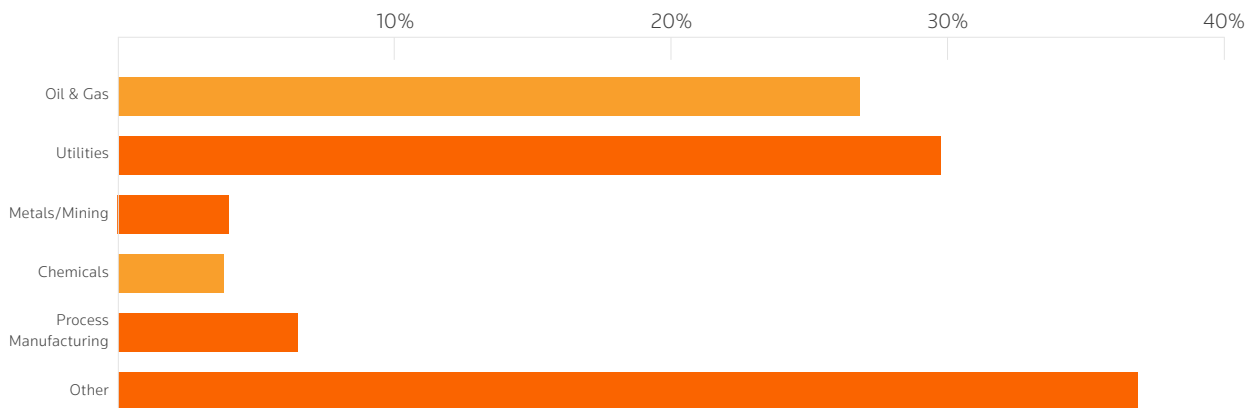
While so-called Scope 1 and 2 emissions—those directly caused by a business and by the energy it consumes—can be estimated with varying degrees of confidence, the Scope 3 footprint arising from upstream and downstream operations is notoriously hard to gauge. Beyond this, there is also an issue with how the data, once acquired, can be managed and integrated into net-zero progress dashboards and accounting reports.

Most of the emissions management platforms developed to date have been done so for specific applications and so are poorly suited to providing holistic, integrated reporting. To gauge the extent of this problem, Reuters Events and GE Digital carried out a survey of 555 industry experts worldwide. Almost a third (31%) of respondents were from Europe and a further 28% from North America.

A quarter of the sample was made up of representatives from the oil and gas sector, which in 2023 was fighting off activist shareholder pressures for increased action on climate.⁴ A further 28% came from utility companies, and 13% from metals, mining, chemicals and process manufacturing.

GRAPH 2: CARBON EMISSIONS MANAGEMENT SURVEY, BREAKDOWN OF RESPONDENTS BY INDUSTRY.

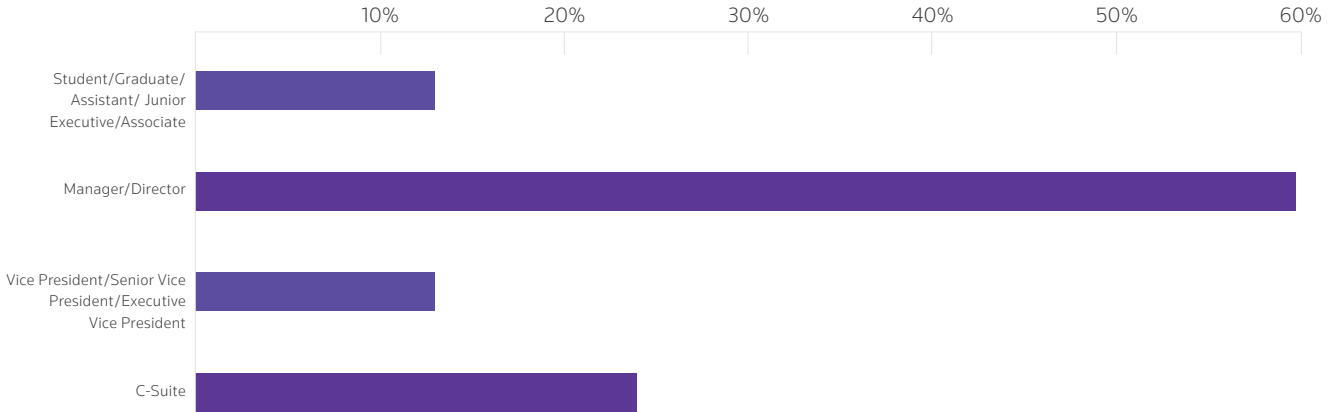
Source: Reuters Events



The remaining 34% belonged to a wide range of sectors, from consulting to construction, illustrating how the need to address emissions management crosses industries and job functions. The sample was skewed towards senior decision makers, with 53% claiming a directorship role or higher and 15% working in the C-suite.

GRAPH 3: CARBON EMISSIONS MANAGEMENT SURVEY, BREAKDOWN OF RESPONDENTS BY JOB TITLE.

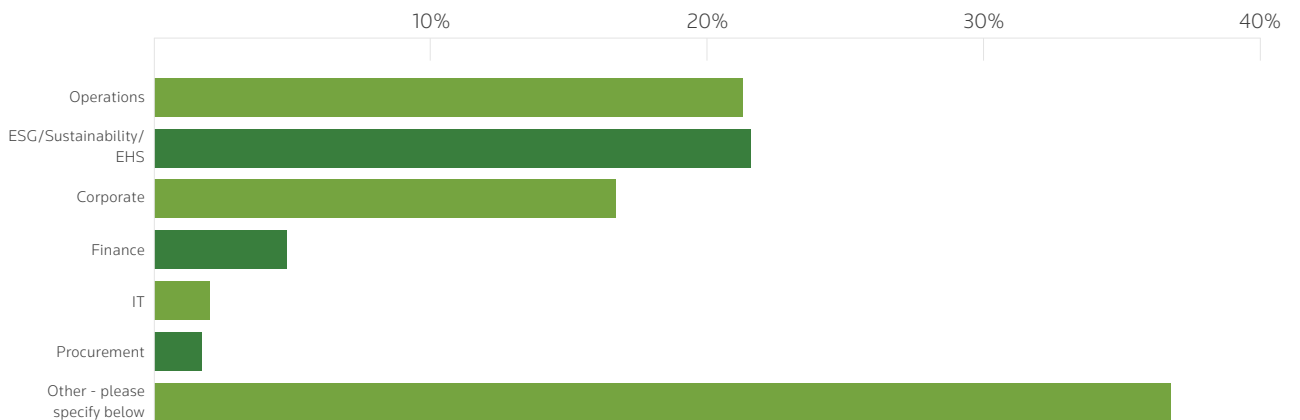
Source: Reuters Events



Around a fifth of respondents were involved in sustainability, environment, health and safety (EHS) or environmental, social and governance (ESG) functions and a similar proportion worked in operations. Other functions represented in the sample ranged from legal and strategy to business development and consulting.

GRAPH 4: CARBON EMISSIONS MANAGEMENT SURVEY, BREAKDOWN OF RESPONDENTS BY FUNCTION.

Source: Reuters Events



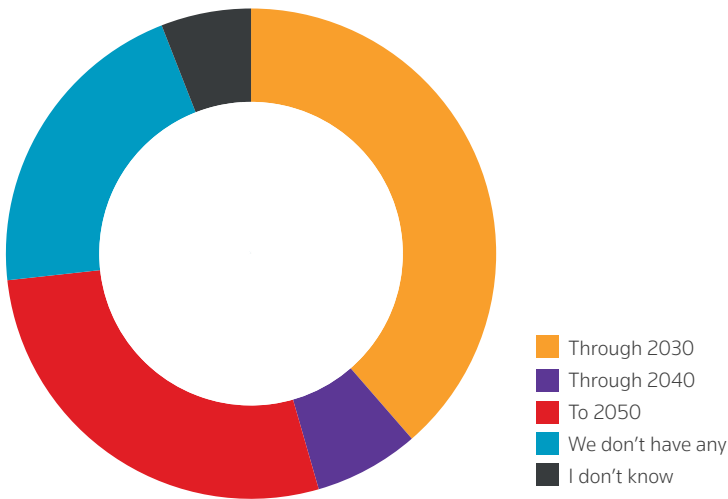
The findings that follow should be considered in light of the methodological constraints of the survey, which relied on anonymized, self-completed responses from professionals in the Reuters Events database.

CARBON MANAGEMENT AND ACCOUNTING

Most respondents in the survey came from organizations that have set decarbonization goals, up to 2050 in 28% of cases, 2040 in 7% and 2030 in 39%. Only 21% of respondents said their organizations had no goals in place, and 6% did not know.

GRAPH 5: STATUS ON DECARBONIZATION PLANS.

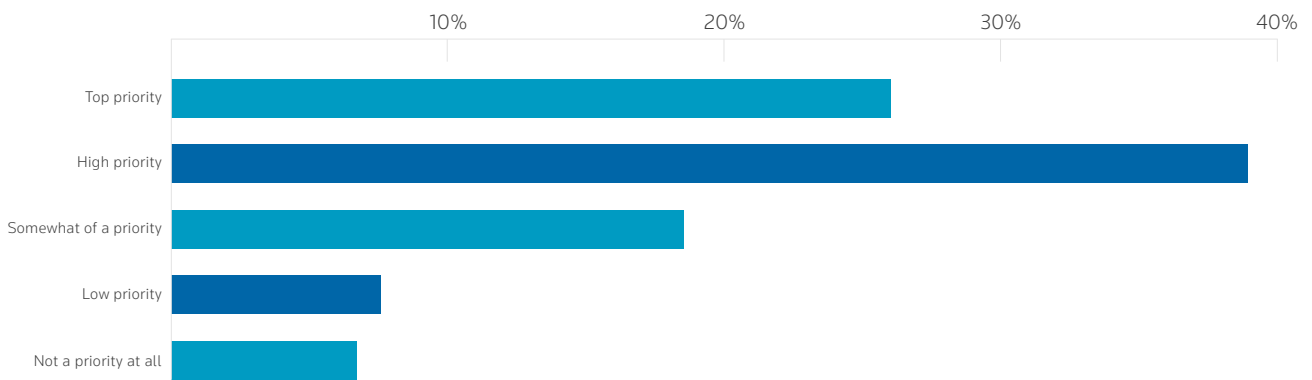
Source: Reuters Events carbon emissions management survey.



In line with the high level of commitment to climate goals, 66% of respondents said collecting data on carbon emissions from operations and production was a high or top priority for the business, compared to gathering office building facilities information. Only 15% of respondents said carbon emissions data was of low or no priority for their organizations.

GRAPH 6: ANSWERS TO THE QUESTION ‘HOW HIGH OF A PRIORITY IS COLLECTING CARBON EMISSIONS ON YOUR OPERATIONS/PRODUCTION, VERSUS OFFICE BUILDING FACILITIES DATA, TO YOUR ORGANIZATION?’

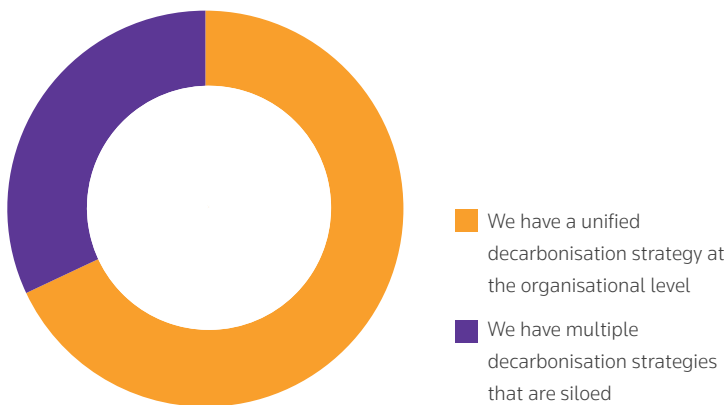
Source: Reuters Events carbon emissions management survey.



In 68% of the companies with stated decarbonization goals, there was a single, unified strategy for emissions reduction, highlighting the need for similarly unified management platforms. However, an arguably high 32% of companies had multiple, siloed decarbonization strategies.

GRAPH 7: ANSWERS TO THE QUESTION ‘DOES YOUR ORGANIZATION HAVE ONE UNIFIED DECARBONIZATION STRATEGY, OR IS THIS SILOED ACROSS PLANTS, FLEETS OR INTERNAL ORGANIZATIONS?’

Source: Reuters Events carbon emissions management survey.



From a systems perspective, it is unclear if this might favor the implementation of discrete management platforms or an integrated, holistic measurement and management tool to track progress to net zero for the organization as a whole. What is clear is that there is a growing need to measure and control emissions.

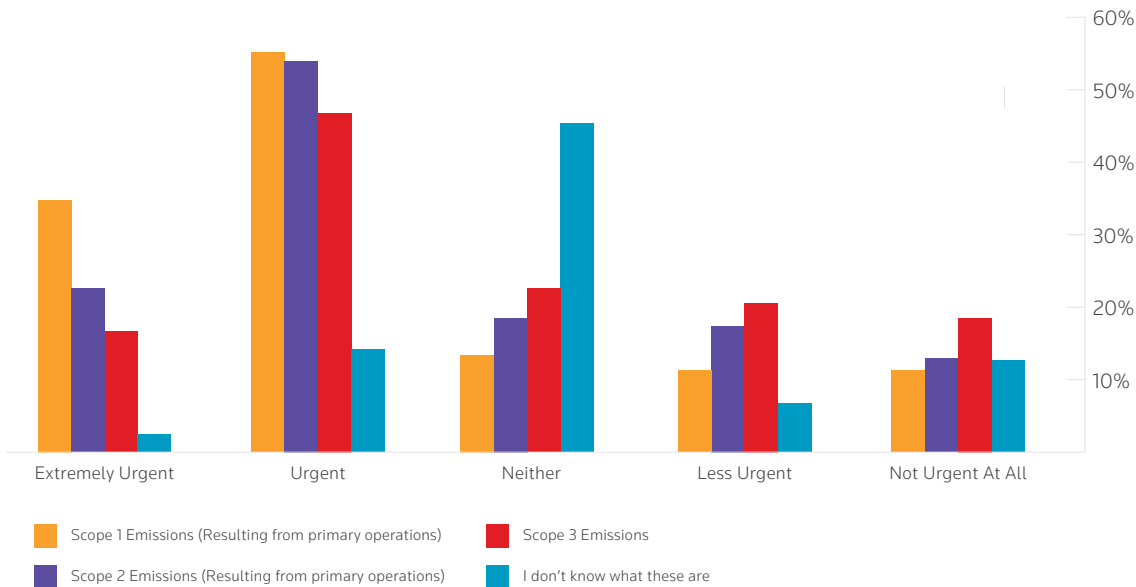
Among companies looking to address Scope 1 emissions, traditionally the easiest to control, 71% of respondents categorized the need to calculate carbon footprints as urgent or extremely urgent. For Scope 2 emissions, this level fell to 61%, and for Scope 3 it was 51%. These figures likely reflect varying levels of ambition in emissions reduction targets, corresponding to varying levels of regulatory pressure.

The SEC’s proposals, for example, would require companies to disclose Scope 1 and 2 emissions but Scope 3 reporting would only be needed when covered by corporate targets or deemed material to investors.⁵ The importance of Scope 3 emissions varies widely by sector, making up almost 100% of the financial services’ greenhouse gas (GHG) footprint but just 16% of the carbon resulting from cement making.⁶

Even so, it is notable that only 15% of respondents in companies addressing Scope 3 footprints said there was no urgency at all in calculating the emissions. Also notable, albeit for the opposite reason, is the finding that a third of those covered by the survey did not know what was meant by Scope 1, 2 and 3 emissions.

GRAPH 8: ANSWERS TO THE QUESTION ‘HOW URGENT IS YOUR ORGANIZATION’S NEEDS TO CALCULATE THESE CARBON EMISSIONS?’

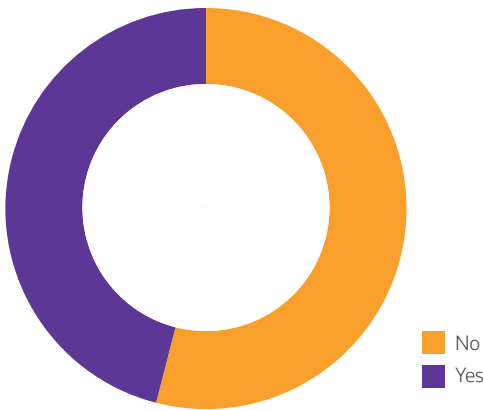
Source: Reuters Events carbon emissions management survey.



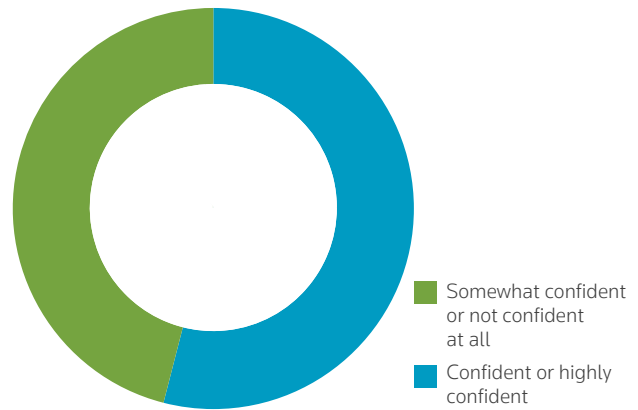
Views on the need for precise climate data are split, with 54% of respondents claiming the information is needed and 46% saying their organizations can make progress towards decarbonization goals without it. This finding is perhaps not as contentious as it might seem at first. Companies may feel little sense of urgency if they are relying on estimates rather than concrete data.

The perceived need for accuracy broadly mirrors sentiment over the extent to which current data is accurate, with 53% of respondents being confident or highly confident that this is the case. Only 7% of respondents claimed to be not confident at all in the emissions data being collected today—a heartening result.

GRAPH 9: ANSWERS TO THE QUESTION 'IS IT POSSIBLE FOR YOUR ORGANIZATION TO MAKE PROGRESS TOWARD DECARBONIZATION GOALS WITHOUT PRECISE DATA ON SCOPE 1, 2 AND 3 EMISSIONS?'
Source: Reuters Events carbon emissions management survey.



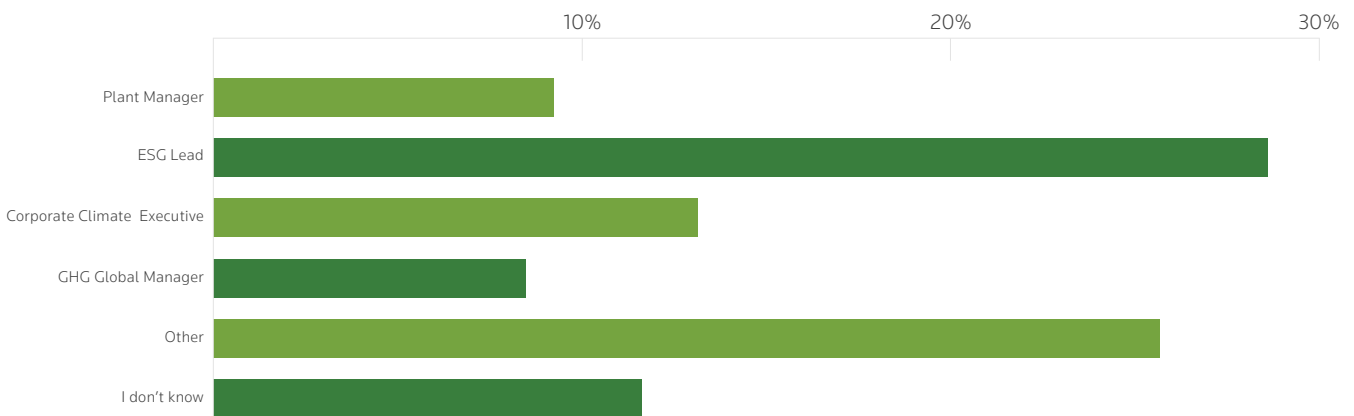
GRAPH 10: PERCENTAGE ANSWERS TO THE QUESTION 'HOW CONFIDENT ARE YOU IN THE ACCURACY OF YOUR CARBON EMISSIONS DATA TODAY?'
Source: Reuters Events carbon emissions management survey.



The need to report on climate impacts appears to have spawned a new generation of corporate roles, including ESG leads (responsible for reporting in 30% of cases), corporate climate executives (14%) and GHG global managers (9%). In one in 10 cases, reporting falls to plant managers, and 27% of respondents listed the role as 'other', placing yet more demands on these personnel to respond to a role that should be specialized.

GRAPH 11: ANSWERS TO THE QUESTION 'WHO IN YOUR ORGANIZATION IS RESPONSIBLE FOR CARBON EMISSIONS REPORTING?'

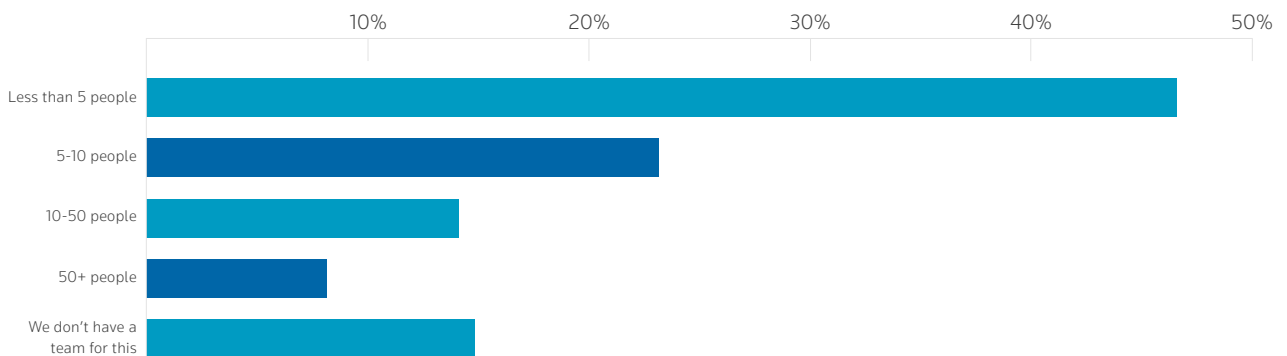
Source: Reuters Events carbon emissions management survey.



The size of teams dedicated to climate reporting is similarly diverse, with 8% of those questioned claiming to have more than 50 people handling the topic and 43% having less than five. What really is a concern is that 14% of companies surveyed had no team at all, since the size of reporting teams appears to correlate with the completeness of emissions views.

GRAPH 12: ANSWERS TO THE QUESTION 'HOW MANY EMPLOYEES ARE INVOLVED IN COLLECTING, MANAGING AND REPORTING CARBON EMISSIONS IN YOUR ORGANIZATION?'

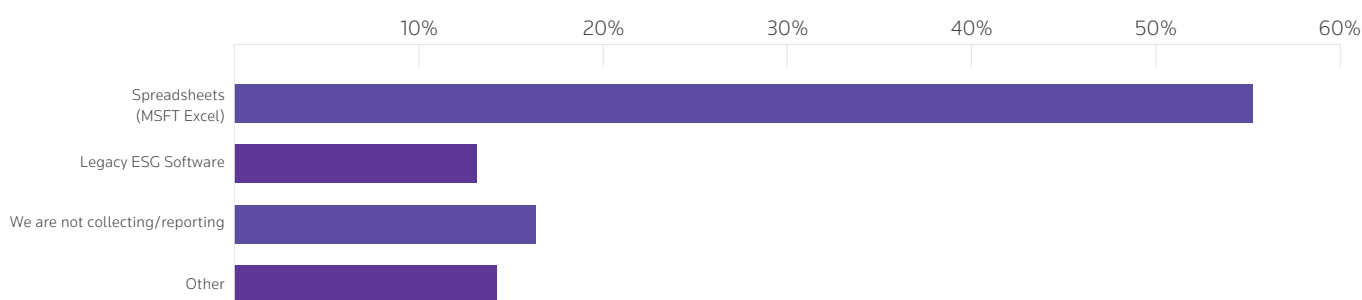
Source: Reuters Events carbon emissions management survey.



Among the 8% of the sample with a 50-person-or-more reporting team, 73% of respondents claimed to have a comprehensive view of enterprise-wide emissions. Another worrying finding is the level of technology sophistication in emissions reporting. This is a vast and complex subject, particularly where Scope 3 emissions are considered, yet 56% of respondents said their organizations were still relying on spreadsheets for the task, while 13% used legacy software and 16% did not collect data at all.

GRAPH 13: ANSWERS TO THE QUESTION ‘WHAT METHOD ARE YOU USING TO COLLECT AND REPORT DATA?’

Source: Reuters Events carbon emissions management survey.

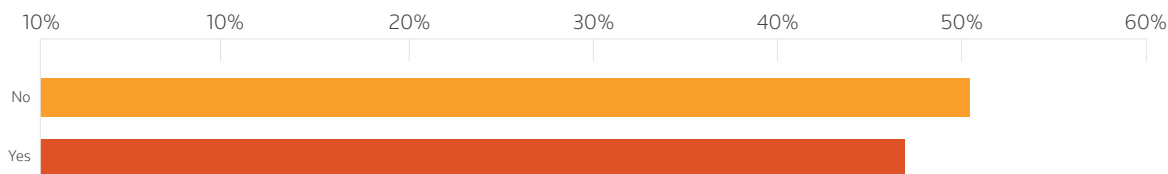


Spreadsheets are notoriously prone to input errors and cannot offer a real-time view of events, so this finding is completely at odds with the previous statement about the confidence of reporting. Unsurprisingly given this finding, 52% of those surveyed believed their organizations lacked reliable, near-real-time data on emissions, again at odds with the confidence response.

The fact that 48% said they did have such data is more remarkable and may reflect narrow Scope reporting, since only 51% of organizations are tackling Scope 3 emissions in an urgent or extremely urgent way (see above).

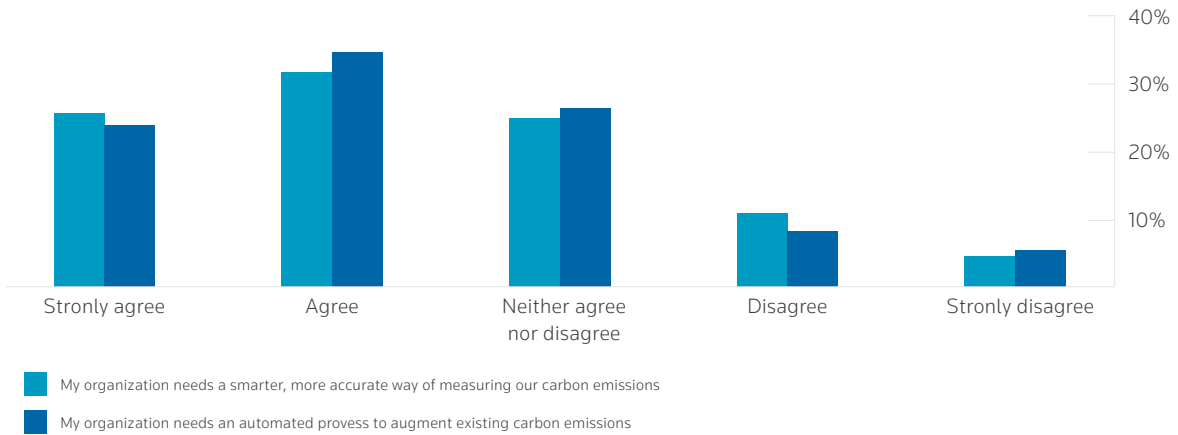
GRAPH 14: ANSWERS TO THE QUESTION ‘DO YOU AGREE THAT YOUR ORGANIZATION HAS RELIABLE, NEAR-REAL-TIME DATA ON EMISSIONS?’

Source: Reuters Events carbon emissions management survey.



Meanwhile, 59% of respondents agreed or strongly agreed that their organizations needed a smarter, more accurate way of measuring and reporting on carbon emissions. Only 5% strongly disagreed with this statement. Similarly, 60% of respondents agreed it would be helpful to augment existing carbon emissions accounting practices with automation.

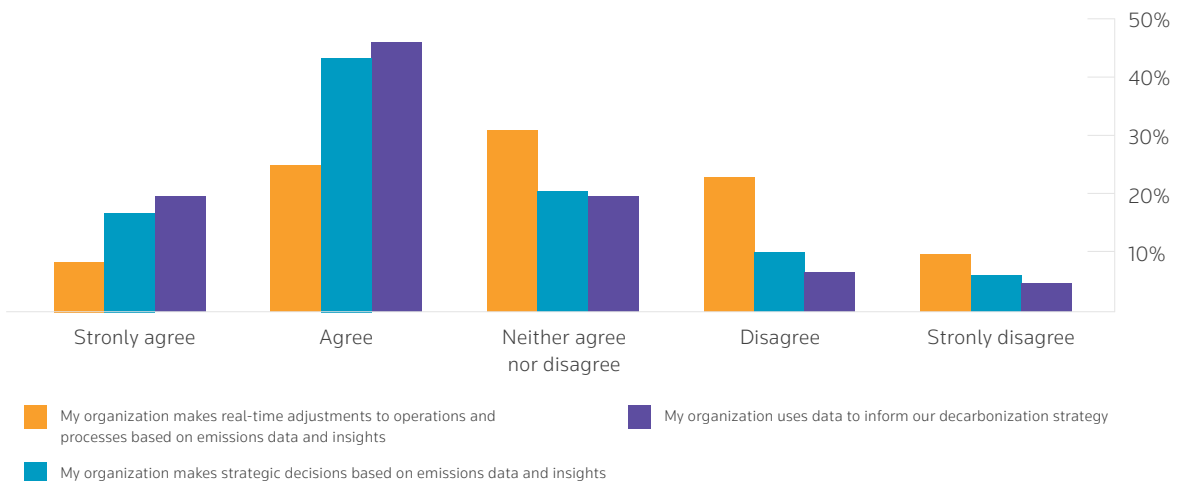
GRAPH 15: ANSWERS TO THE QUESTION 'TO WHAT EXTENT DO YOU AGREE WITH THESE STATEMENTS?'



Improvements in emissions data management would seem to be welcome given the growing importance of this information for corporate decision making. Almost two thirds (62%) of respondents said their organizations use emissions data and insights to make strategic decisions, and this information informs decarbonization strategies in 68% of cases.

GRAPH 16: ANSWERS TO THE QUESTION 'TO WHAT EXTENT DO YOU AGREE WITH THESE STATEMENTS?'

Source: Reuters Events carbon emissions management survey.



Furthermore, 35% of respondents said their organizations use emissions data and insights to make real-time adjustments to operations and processes. The picture that emerges from these responses is one of executives facing a growing requirement for accurate, detailed emissions reporting, yet lacking the resources to adequately serve that need.

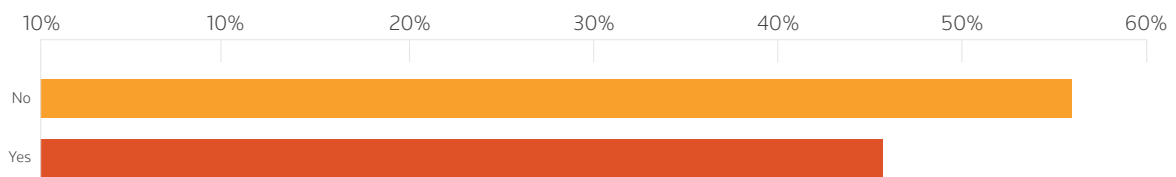
MARKETS AND REGULATION

Investors ploughed \$157 billion into ESG-linked mutual funds and exchange-traded products in 2022, although this represented a significant drop compared to 2021, which saw a record \$649 billion of ESG investment according to data provider Morningstar.⁷ This uncertain level of investor concern for ESG perhaps explains why 55% of the survey sample said their organizations were not experiencing financial pressure to report on carbon emissions.

For now, the need to address regulation trumps investors as a driver for emissions reporting, with 67% of respondents ranking it first or second on a scale of one to four, compared to 63% for stakeholder pressure. Despite investor concerns around greenwashing, it is also interesting to note that only 19% of respondents placed opinion forming and public relations among the top two positions on the scale.

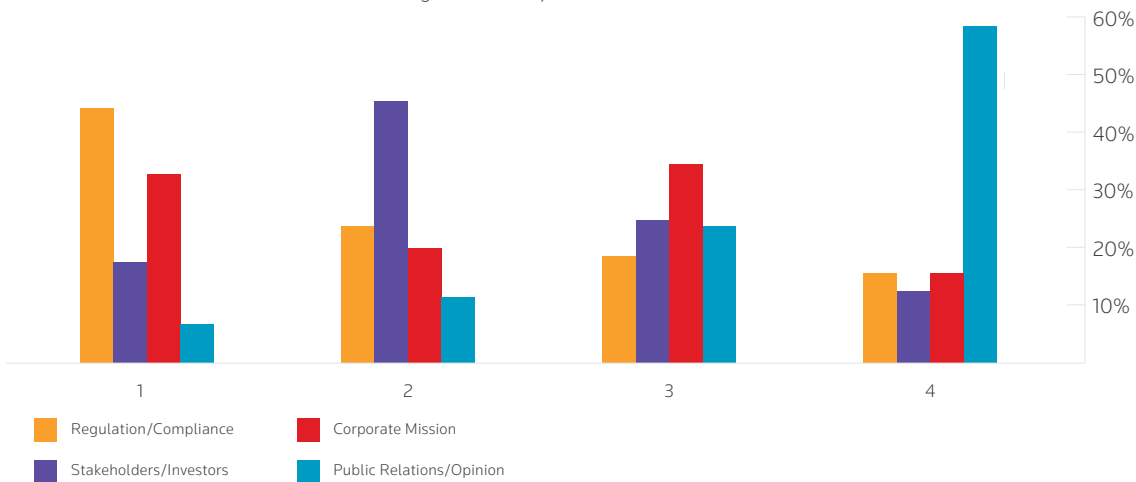
GRAPH 17: ANSWERS TO THE QUESTION 'DOES YOUR ORGANIZATION FACE FINANCIAL PRESSURE TO REPORT ON AND ACCOUNT FOR CARBON EMISSIONS?'

Source: Reuters Events carbon emissions management survey.



GRAPH 18: ANSWERS TO THE QUESTION 'OF THE OPTIONS, WHICH IS THE BIGGEST DRIVER FOR YOUR ORGANIZATIONAL CARBON EMISSIONS REPORTING?'

Source: Reuters Events carbon emissions management survey.

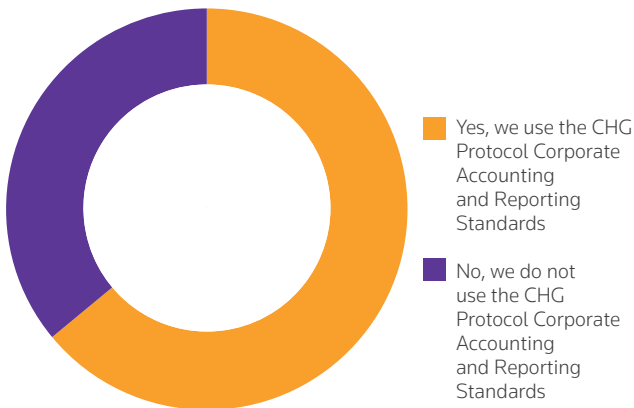


Nevertheless, recent research suggests the value of ESG-related investments will grow along with the risk of climate tipping points,⁸ so financial pressure to report on decarbonization is likely to increase. Already among those that are reporting there is an emerging preference for the GHG Protocol Corporate Accounting and Reporting Standards developed by the World Resources Institute and World Business Council for Sustainable Development.

This protocol was being used by 64% of companies involved in emissions accounting, with the remainder choosing anything from generally accepted accounting principles to the ISO 14064 international standard for environmental management. The implication here for technology platform selection is that any emissions reporting system should be compatible with GHG Protocol Corporate Accounting and Reporting Standards along with a wide range of other frameworks.

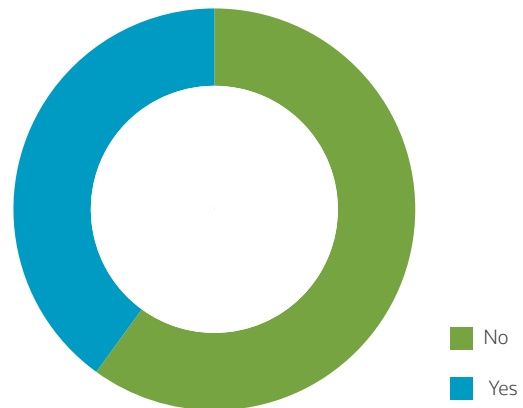
GRAPH 19: ANSWERS TO THE QUESTION 'IS YOUR ORGANIZATION USING THE GHG PROTOCOL CORPORATE ACCOUNTING AND REPORTING STANDARDS FOR YOUR REPORTING EFFORTS, OR ANOTHER STANDARD?'

Source: Reuters Events carbon emissions management survey.



GRAPH 20: ANSWERS TO THE QUESTION 'IS INTERNAL INVESTMENT A BARRIER TO EMISSIONS DATA GATHERING AND REDUCTION EFFORTS?'

Source: Reuters Events carbon emissions management survey.



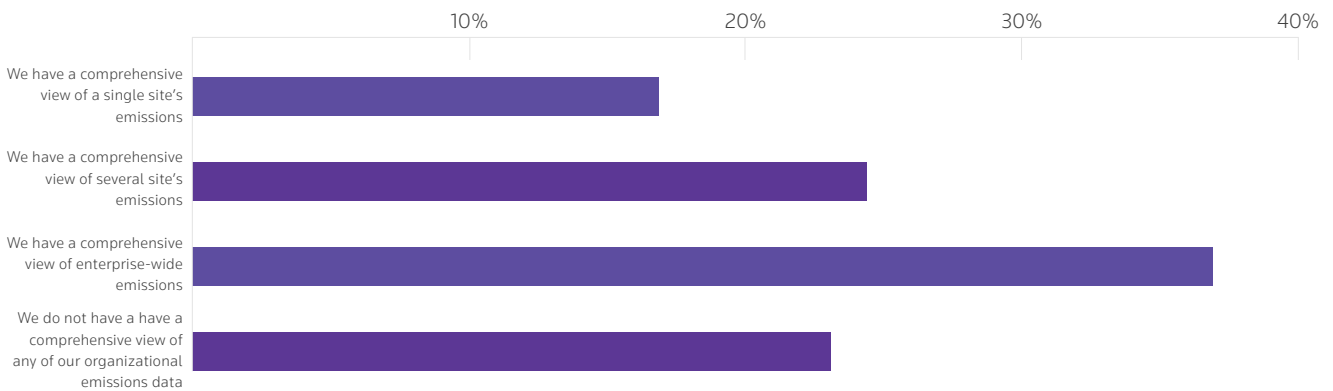
The good news from a platform acquisition perspective is that most organizations seem willing to spend on improved GHG analytics, with 59% of respondents saying internal investment was no barrier to emissions data gathering and reduction efforts. Nevertheless, the fact that 41% of respondents did see internal investment as a barrier could serve as warning that a significant minority of businesses is still failing to give carbon accounting the priority it needs.

THE ROLE OF SOFTWARE

Companies are increasingly aware of their GHG footprints, with 36% of respondents claiming to have a comprehensive view of enterprise-wide emissions and only 23% saying they did not have visibility of any data. However, it is unclear from this question whether the visibility claimed by respondents extends to all emissions scopes.

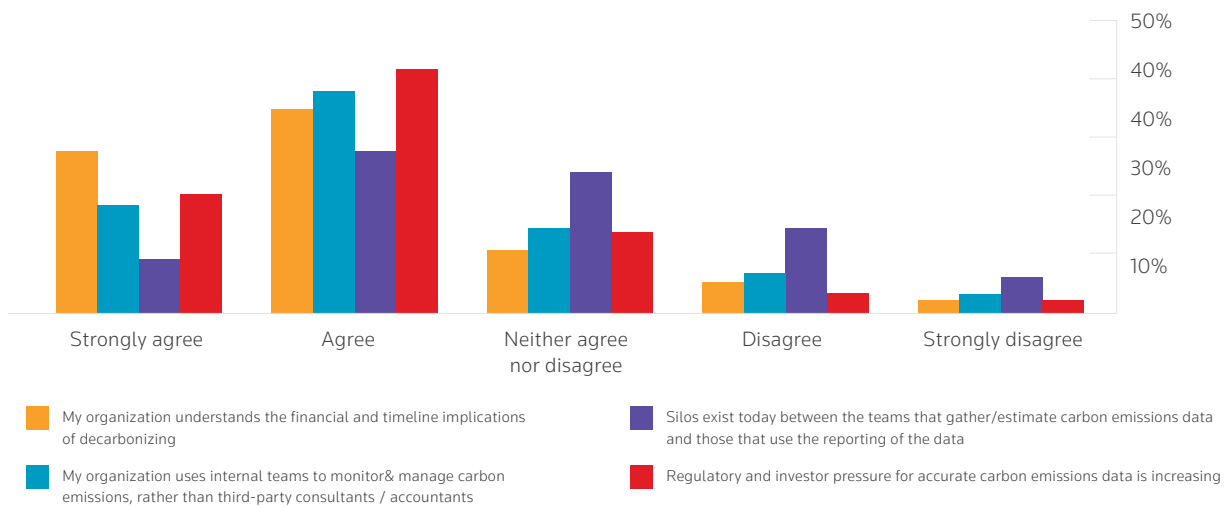
GRAPH 21: ANSWERS TO THE QUESTION ‘TO WHAT EXTENT DOES YOUR ORGANIZATION HAVE A COMPREHENSIVE, ENTERPRISE VIEW OF CARBON EMISSIONS DATA?’

Source: Reuters Events carbon emissions management survey.



GRAPH 22: ANSWERS TO THE QUESTION ‘TO WHAT EXTENT DO YOU AGREE WITH THESE STATEMENTS?’

Source: Reuters Events carbon emissions management survey.

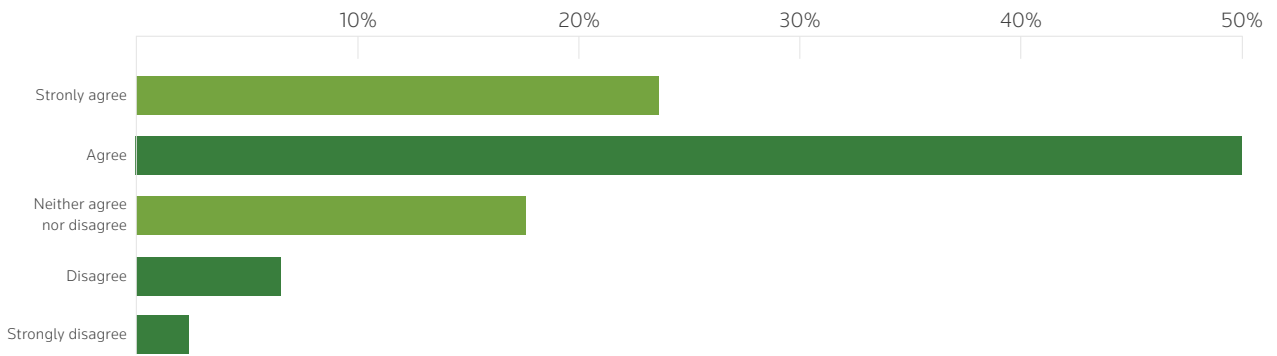


For around 77% of companies to have a comprehensive view of Scope 3 footprints, even for a single site, would be unexpected given the response to the previous question about the urgency of this level of reporting. Nevertheless, there is broad agreement on the need for timely and accurate decarbonization data, with 70% of companies surveyed using internal teams to monitor and manage emissions.

Three quarters of the sample agreed that there is growing regulatory and investor pressure to have more accurate carbon emissions data. However, in 45% of companies there is a view that the teams gathering and estimating emissions data are in a different silo to those that need to report on it.

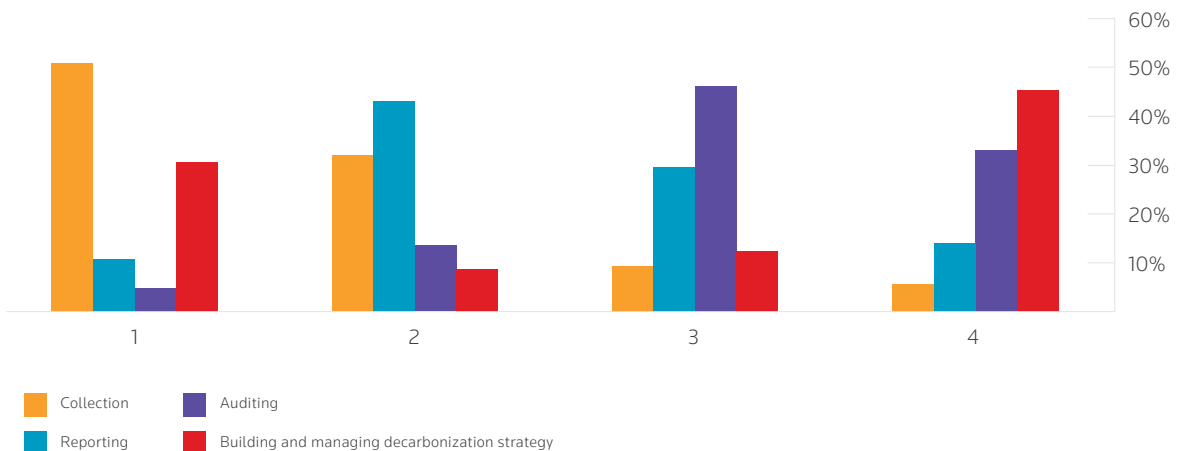
GRAPH 23: ANSWERS TO THE QUESTION ‘TO WHAT EXTENT DO YOU AGREE WITH THE STATEMENT THAT “MY ORGANIZATION CAN MAKE STEADY PROGRESS AGAINST DECARBONIZATION GOALS USING THE TOOLS AND PROCESS WE HAVE TODAY AROUND DATA COLLECTION AND REPORTING”?’

Source: Reuters Events carbon emissions management survey.



GRAPH 24: ANSWERS TO THE QUESTION ‘WHICH OF THESE ELEMENTS OF CARBON EMISSIONS DATA MANAGEMENT SOFTWARE ARE THE BIGGEST PRIORITY FOR YOUR ORGANIZATION?’

Source: Reuters Events carbon emissions management survey.

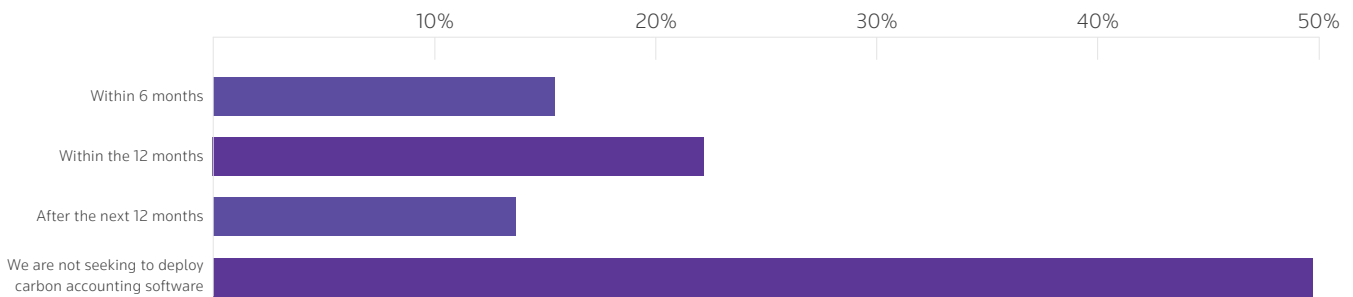


Most respondents in the survey felt their organizations were able to make steady progress against decarbonization goals using the data collection and reporting tools and processes they already had in place. At the same time, though, respondents expressed a clear need for emissions data collection software, followed by systems used in reporting.

Roughly half of the companies surveyed were seeking to deploy carbon emissions management software, with 37% of respondents saying the move could happen within a year. In contrast, 49% of respondents said their organizations were not seeking to deploy carbon emissions management software. This may be due to companies adopting a wait-and-see policy on technology adoption, standing by while available platforms achieve maturity.

GRAPH 25: ANSWERS TO THE QUESTION ‘IS YOUR ORGANIZATION SEEKING TO DEPLOY CARBON EMISSIONS MANAGEMENT SOFTWARE IN THESE TIMEFRAMES?’

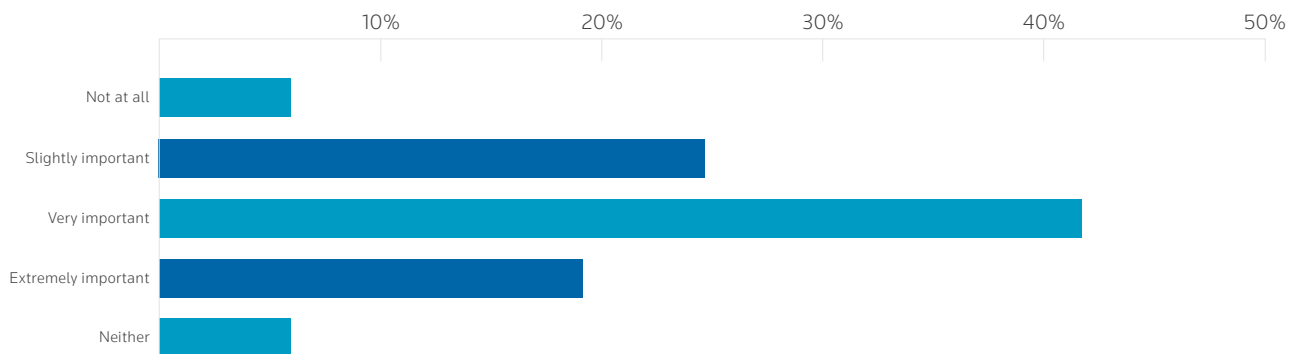
Source: Reuters Events carbon emissions management survey.



In choosing technology and advisory partners for ESG reporting, 62% of respondents said it was very or extremely important to work with companies that had industry experience. This could be an important point in technology vendor selection given that there are few platform vendors with in-depth experience across a wide range of industries, from energy to industrial processes.

GRAPH 26: ANSWERS TO THE QUESTION ‘HOW IMPORTANT IS IT TO WORK WITH A PARTNER IN THE ESG SPACE THAT HAS INDUSTRY EXPERIENCE?’

Source: Reuters Events carbon emissions management survey.



OUTLOOK AND CONCLUSIONS

The complexity of achieving net zero is evident not only from the discussion of emissions scopes above but also from the range of the carbon abatement tools and technologies that organizations are investing in, with more than two dozen options cited. This complexity contrasts somewhat with the degree of confidence expressed in existing carbon emissions management systems, suggesting that at least some companies may not have yet fully come to terms with the need for greater reporting efficiency.

Such a finding should not be surprising given fact that the tougher carbon accounting rules planned for North America and Europe have yet to enter force. Certainly, it appears unlikely that many large companies will be able to comply with these new rules without a significant resource overhead when more than half of the organizations surveyed are still using spreadsheets for the task.

The clear importance of decarbonization and complying with a growing body of ESG regulations suggests companies with all but the most lavish of in-house resources could be well served by a holistic enterprise carbon management platform that can:

- Enable emissions reduction improvements and develop achievable net-zero pathways.
- Help build a strategy to monitor and report on progress with precision.
- Collect accurate data for Scope 1, 2 and 3 emissions.

These objectives can be achieved today using a variety of tools, but it is clearly beneficial to have a single platform that can support all of them and more. This is particularly the case given the growing need to share emissions data with a wide range of stakeholders, from regulatory bodies to boardrooms keen to see progress towards corporate climate goals.

A final consideration, not assessed in this study, is the extent to which carbon monitoring and management platforms can contribute to operational excellence. One of the most important levers for decarbonization, if not the most important, is improved efficiency of operations, which results in obvious bottom-line benefits as well as carbon reductions.

An example of how companies might take advantage of better emissions management tools to simplify the carbon accounting process and build impactful abatement programs comes from using GE Vernova's CERius™ carbon management software.

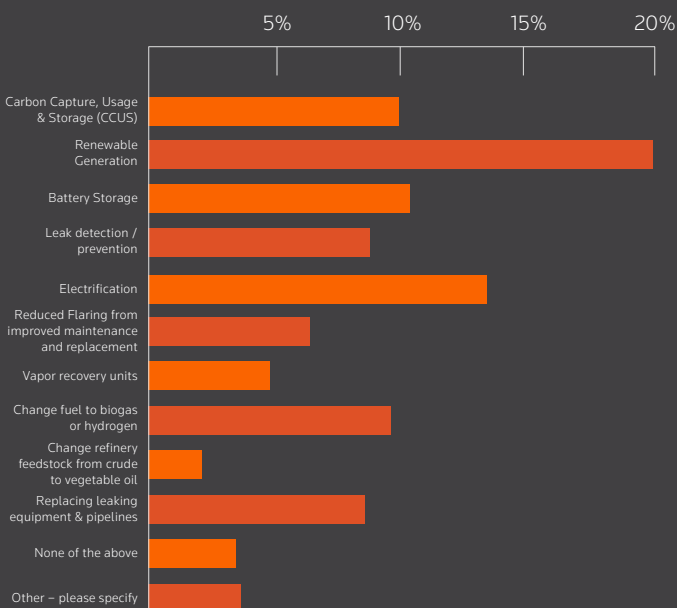
To achieve net-zero emissions targets, energy companies and other heavy industrials first need precise, automated emissions data collection.

The software provides what-if scenario planning, decarbonization road mapping, automated data collection and real-time monitoring to track and report emissions.

With these capabilities, energy-intensive industries including power generators and oil and gas players can measure, manage, operationalize insights and receive recommendations in decarbonization planning - aligning stakeholders and performance to corporate net-zero targets.

GRAPH 27: ANSWERS TO THE QUESTION 'WHICH CARBON ABATEMENT TECHNOLOGIES IS YOUR ORGANIZATION INVESTING IN?'

Source: Reuters Events carbon emissions management survey.



REFERENCES

- ¹ Charlotte Gardes-Landolfini and Fabio Natalucci, International Monetary Fund, August 23, 2022: Achieving Net-Zero Emissions Requires Closing a Data Deficit. Available at <https://www.imf.org/en/Blogs/Articles/2022/08/23/achieving-net-zero-emissions-requires-closing-a-data-deficit>.
- ² Zach Warren, Reuters, January 30, 2023: Upcoming SEC climate disclosure rules bring urgency to ESG data strategy planning. Available at <https://www.reuters.com/legal/legalindustry/upcoming-sec-climate-disclosure-rules-bring-urgency-esg-data-strategy-planning-2023-01-30/>.
- ³ BDO, 2023: Building Products & Services (in preparation).
- ⁴ Sabrina Valle, Reuters, June 1, 2023: Exxon, Chevron shareholders soundly reject climate-related petitions. Available at <https://www.reuters.com/sustainability/exxon-shareholders-reject-climate-proposals-activist-annual-meeting-2023-05-31/>.
- ⁵ Shannon M. Lloyd, Maida Hadziosmanovic, Kian Rahimi and Pankaj Bhatia, World Resources Institute, June 24, 2022: Trends Show Companies Are Ready for Scope 3 Reporting with US Climate Disclosure Rule. Available at <https://www.wri.org/update/trends-show-companies-are-ready-scope-3-reporting-us-climate-disclosure-rule#>.
- ⁶ Ibid.
- ⁷ Lyle Niedens, Investopedia, February 8, 2023: Global Investments in ESG Funds Plunged 76% in 2022. Available at <https://www.investopedia.com/esg-fund-inflows-plunge-2022-7106493>.
- ⁸ Thomas Lontzek, Walter Pohl, Karl Schmedders, Marco Thalhammer and Ole Wilms, May 24, 2023: Asset Pricing with Disagreement about Climate Risks. Available at https://www.iese.edu/wp-content/uploads/2023/05/Green_and_Brown_Assets_v24May2023.pdf.

