

CARBON BLIND SPOTS

Review of Tier I Contracting Market

EXECUTIVE SUMMARY

The construction industry is pivotal to global development, contributing significantly to economic growth and infrastructure. However, its environmental footprint is staggering, with 25% of the UK's total greenhouse gas (GHG) emissions attributable to the built environment.¹

The annual embodied carbon emissions stemming from the construction, maintenance, and demolition of buildings equates to 40-50 million tonnes of CO₂² - more than emissions from aviation and shipping combined. For the UK to honour its 2030 COP26 commitments or its legally binding net zero by 2050 target, a substantial reduction in these emissions is a necessity.

To evaluate the industry's trajectory, we have reviewed the top 30 UK Tier 1 contractors, evaluating their carbon maturity through comparative analysis using publicly available information such as carbon reduction plans, and annual accounts (predominantly from 2022).

Representing a combined annual turnover of £44 billion, equivalent to 24% of the UK construction industry activity³, these companies serve as a valuable proxy, providing an outlook on the sector's potential for driving meaningful change.

Our analysis - focused on the reporting of emissions, the effectiveness of current carbon reduction measures and future mitigation plans of these companies - reveals a stark dichotomy.

While all contractors universally record their Scope 1, 2 and 3 emissions, with most using third-party verification, their carbon maturity varies. Each contractor has committed to a net zero target, with a timeframe set between 2030 and 2050. Encouraging progress has been made in reducing Scope 1 and 2 emissions, with initiatives such as diesel-free sites and a pivot to greener forms of energy quickly becoming mainstream. However, Scope 3 emissions remain unresolved.

Our estimates suggest that Scope 3 emissions account for an overwhelming 94 - 98% of organisations' emissions. Yet inconsistencies observed in data quality and depth of action planning cast shadows over the attainability of the declared net zero goals and raise concerns about the accounting and scope of Scope 3 emissions currently recorded.

Our report emphasises the urgent need for a heightened focus on Scope 3 emissions, supported by standardisation in emissions reporting. Failure to act decisively risks widening our carbon reduction deficit and derailing our trajectory towards net zero emissions.

We propose a three-pronged strategy comprising organisational actions, project-level interventions, and ecosystem changes.

- **Organisational actions:** These encompass enhancing governance transparency, investing in carbon literacy and skills development, integrating climate risks into financial planning, collaborating with the supply chain for carbon reduction and steering investment towards sustainable R&D.
- **Project level actions:** Adoption of industry best practices such as LETI's Climate Emergency Design Guide and Low Embodied Carbon Specification and Procurement Guides to drive significant improvements in project delivery.
- **Ecosystem:** Standardising Scope 3 emission reporting to enable cross-organisation comparison (not least expanding the definition of Scope 3 inclusion within PPN 06/21), incorporating carbon pricing in cost models and championing for broader, supportive policy amendments, such as VAT reductions for energy-saving materials.

Whilst these recommendations could catalyse positive strides forward, they do not address the core issue that so much of the industry's primary business is 'to build more'. Addressing this inherent contradiction is fundamental to shifting from the unsustainable status quo.

Whilst this report is focused towards the contracting market, the sweeping changes we propose require collective action from all industry stakeholders. A transition towards a circular economy and the ethical alignment of people, planet and profit as equal organisational priorities demands transformative leadership. This offers a unique opportunity for visionary leaders and organisations to distinguish themselves. With the construction industry lagging in its pace of change, those bold enough to act now have the chance to create an enduring legacy - one that will resonate within the industry but also have a lasting impact on future generations.

¹ UKGBC, Net Zero Whole Life Carbon Roadmap, 2021

² UKGBC, Net Zero Whole Life Carbon Roadmap, 2021

³ Office for National Statistics

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GLOSSARY OF TERMS

One of our key observations within this report is the need for greater consistency in carbon assessment and reporting. We thought it only right we should practice what we preach and therefore have set out a glossary below, using definitions from LETI⁴:

Greenhouse Gas (GHG) emissions (often referred to as ‘carbon emissions’ in general usage): constituents of the atmosphere that absorb and emit radiation.

Note - within this report we are only addressing the GHGs with Global Warming Potential assigned by the Intergovernmental Panel on Climate Change (IPCC), e.g. carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

Whole Life Carbon: The sum total of all asset related GHG emissions and removals, both operational and embodied over the life cycle of an asset including its disposal (Modules: A0-A5; B1-B7; B8 optional; C1-C4, all including biogenic carbon, with A02 assumed to be zero for buildings).

Overall Whole Life Carbon asset performance includes separately reporting the potential benefits or loads from future energy or material recovery, reuse, and recycling and from exported utilities (Modules D1, D2)

Net Zero (Whole Life) Carbon: Where the sum total of all asset-related GHG emissions, both operational and embodied, over an asset’s life cycle (Modules A0-A5, B1- B8, C1-C4) are minimised, which meets local carbon, energy and water targets or limits, and with residual ‘offsets’, equals zero.⁵

Embodied Carbon: The total GHG emissions and removals associated with materials and construction processes throughout the whole life cycle of an asset (Modules A0-A5, B1-B5, C1-C4, with A02 assumed to be zero for buildings).

Net Zero Embodied Carbon: Where the sum total of GHG emissions and removals over an asset’s life cycle (Modules A0-A5, B1-B5 and C1-C4) are minimised, which meets local carbon targets or limits (e.g. kgCO₂e/m²), and with additional ‘offsets’, equals zero.

Operational Carbon (Buildings): ‘Operational Carbon – Energy’ (Module B6) are the GHG emissions arising from all energy consumed by an asset in-use, over its life cycle.

In addition the Greenhouse Gas Protocol defines a company’s GHG emissions into three scopes:

- **Scope 1 emissions** - direct emissions from owned or controlled sources. For most contractors this includes emissions from company vehicles and owned plant.

- **Scope 2 emissions** - indirect emissions from the generation of purchased energy. Typically this is electricity used on site or in offices.

- **Scope 3 emissions** - all other indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

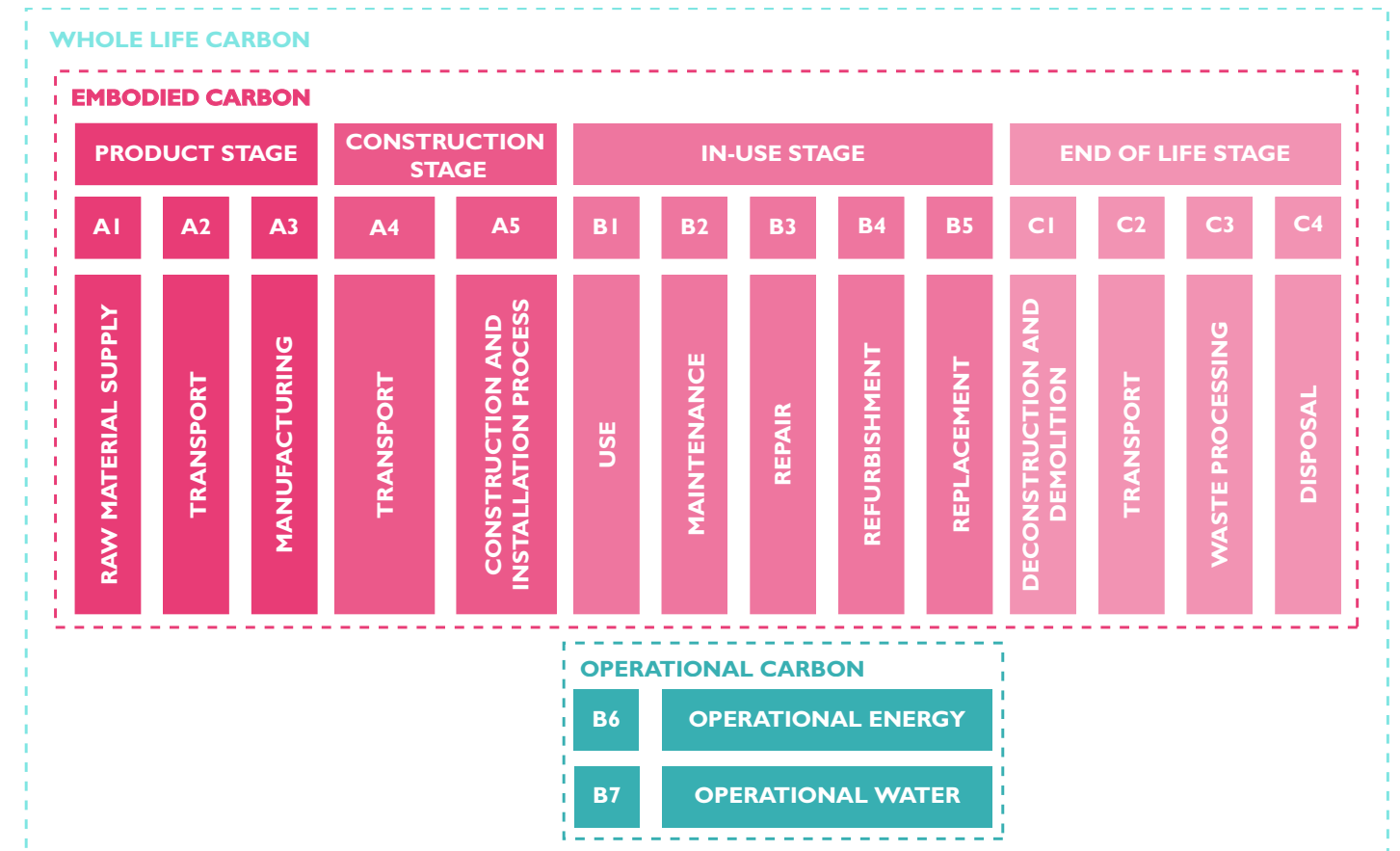


Figure 1: adapted from LETI

⁴ LETI, Improving Consistency in Whole Life Carbon Assessment and Reporting, January 2023

⁵ A consultation by the UK NZC Buildings Standard for a harmonised definition of net zero is ongoing and therefore this may tweak in the future

BACKGROUND

At Akerlof, our mission is to deliver betters through the built environment. This is the driving force behind our effort in preparing this report.

While CO₂nstructZero (the Construction Leadership Council's response to the net zero challenge) provides quarterly updates on progress⁶, we felt it was important to independently assess the construction sector's progress towards net zero. To this end, we have conducted a review of the UK's 'Top 30'⁷ contractors to gain a deeper understanding of their carbon footprints.

Representing a combined annual turnover of £44 billion, equivalent to 24% of the UK construction industry activity,⁸ these companies serve as a valuable proxy sample for assessing the potential for driving meaningful change within the sector.

Our analysis has focused on three key areas:

- The current reporting of these contractors and their progress against pre-established baselines.
- The effectiveness of their existing carbon reduction measures.
- Their future strategic plans for carbon mitigation.

Our findings highlight the significant challenges that lie ahead but also indicate possible routes towards a greener future.

That said, our study has its limitations:

- **Scope of information:** Our data, sourced from publicly available information, encompasses only 30 contractors. This leaves out the contributions of other major players in the market. Additionally, the vital role of clients and designers in this transformation cannot be overstated. Coordinated efforts between clients, designers, and contractors are critical to igniting change, creating a construction industry better aligned with our collective sustainability goals.
- **Dynamic data:** Our research provides a snapshot of the market at a specific point in time (predominantly based on 2022 reports), which may quickly become outdated due to rapidly evolving strategies and practices. This calls for routine updates and reassessment of findings - a point we would encourage the CLC to consider taking forward.
- **Comparative analysis difficulty:** Due to limited information on strategies and reported figures, applying benchmarks and making accurate comparisons has been challenging. This limitation has hindered our ability to assess the relative effectiveness or progress of individual contractors, whilst simultaneously reinforcing the need for greater consistency and transparency.

To navigate these hurdles, particularly the challenge of comparative analysis, we emphatically encourage increased transparency and collaboration within the industry. The Task Force for Climate-related Disclosure (TCFD) reporting, demands disclosure of climate-related information at an organisation level, however there is equally more that can be done across projects and portfolios.

Sharing strategies and data among contractors would facilitate more effective benchmarking, however, a sustainable transformation cannot be achieved in isolation - it will require the combined effort of all stakeholders in the construction ecosystem.

⁶ CO₂nstructZero

⁷ Our list was based upon the top 30 building contractors within the Construction News 100, September 2022

⁸ Office for National Statistics

BROADER CONTEXT

In the face of escalating climate change, the UK Government has made a legally binding commitment through the Sixth Carbon Budget: to reduce greenhouse gas emissions by 78% by 2035, compared to 1990 levels. Moreover, at COP26, the UK pledged to achieve a 68% reduction in carbon emissions by 2030 - a target now just 7 years away.⁹ These commitments represent a clear signal to businesses and investors about the scale of the transition required to achieve a low-carbon economy.

As shown in Figure 2, the built environment is responsible for a quarter of the UK's total emissions, and has a critical role in this transition. The urgency for change is underscored by the fact that embodied carbon emissions from the construction, maintenance, and demolition of buildings amount to 40 to 50 million tonnes of CO₂ annually.¹⁰

To aid the sector, the Government has introduced targeted policies, such as the Industrial Decarbonisation Strategy and mandatory climate disclosure for large businesses¹¹, to enhance the transparency of carbon reporting data and drive improved performance. Procurement Policy Note (PPN) 06/21 was released to ensure that all businesses delivering high value public sector contracts include sustainability as part of their business operations. Most, if not all of our sample of contractors are therefore required to publish a carbon reduction plan, providing current emissions for all sources of Scope 1 and 2 emissions and a defined subset of Scope 3 emissions.

The introduction of the PPN has already created positive ripples within the supply chain. To add to this, the Part Z campaign,¹² which seeks to introduce mandatory whole life carbon assessments as part of building regulations, has recommended mandatory reporting and phased introduction of limit values. Several local authorities, not least the Greater London Authority (GLA) and the West Midlands Combined Authority have already introduced planning policy on whole-life carbon emissions. Organisational and project carbon literacy is no longer a nice to have but now a business must.

The shift to a low-carbon economy requires a rethink of traditional construction methods and materials across the entire value chain. For those ahead of the curve, a competitive edge exists. However, this advantage relies upon a data-driven evidence base, to pinpoint areas for improvement, reduce waste, and increase efficiency.

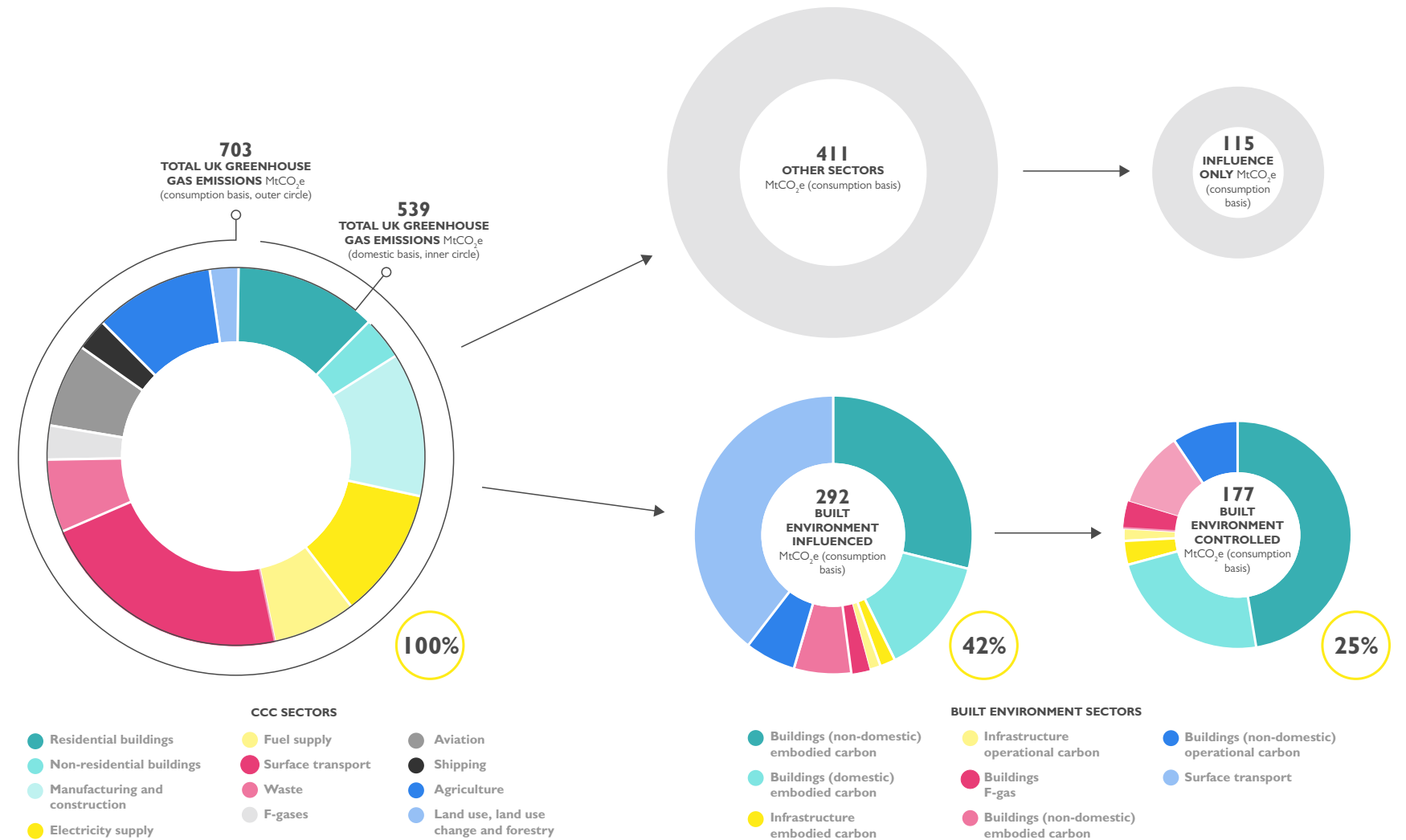


Figure 2: adapted from UKGBC - Total UK GHG emissions (2018 CCC Data) showing proportion of Built Environment emissions

⁹ Seven years may seem a long time, but it was only seven years ago the UK voted for Brexit
¹⁰ UKGBC, Net Zero Whole Life Carbon Roadmap, 2021
¹¹ HM Treasury, A Roadmap towards mandatory climate-related disclosures
¹² The Part Z Campaign

THE CHALLENGE

The image shows a construction site at night. Several cranes are visible, some with their lights on. In the foreground, there are two large trucks or pieces of heavy machinery. The background consists of several buildings under construction, with their skeletal frames visible. The entire scene is bathed in a dark, moody light, with a prominent green diagonal graphic element on the right side of the image.

CHALLENGES IN ADDRESSING EMBODIED CARBON

In September 2023, the Stockholm Resilience Centre confirmed that we had crossed six of the nine planetary boundaries, reaffirming a state of climate emergency that extends beyond purely carbon emissions¹³. Despite the critical and urgent need for change, the pace of progress within the construction industry has been slow.¹⁴

A modest 30% reduction in emissions over the last two decades, has been primarily driven by operational cuts.¹⁵ Business-as-usual forecasts, informed by the existing government policy framework, suggest that the sector will significantly fall short of 2050 net zero targets, achieving only a 60% reduction to that of 1990 levels.¹⁶

While there have been some notable improvements in managing Scope 1 and 2 emissions, they represent the low-hanging fruit of the sustainability agenda. Scope 3 emissions - linked to the extraction, production, transportation, and disposal of building materials (e.g. the embodied carbon) - are a different challenge.

“In construction, the greatest challenge is reducing scope 3 emissions - the embodied carbon in purchased materials”

Cathal O’Rourke, Laing O’Rourke

The proportion of Scope 3 emissions varies across organisations however it is invariably significant: the GHG Protocol estimates it is above 90%, whilst some contractors acknowledge it is more likely between 95 - 99%.¹⁷ Demonstrating the magnitude of the problem, this underscores that Scope 3 emissions are the proverbial elephant in the room - a significant issue that demands attention but is all too often overlooked.

To meet the stipulated carbon goals, businesses must cast their net wider, extending their focus to focus on Scope 3 emissions. Current policy, in PPN 06/21, mandates reporting on Scope 1, and Scope 2 emissions, but only a subset of Scope 3. However this is expected to change: the HM Government Guidance Note on ‘Promoting Net Zero Carbon and Sustainability in Construction’ states that:

“tier one contractors [should] understand the likely implications not just for themselves, but for their potential suppliers too.”

Given that modules A1-A3 contribute up to 80% of a building’s embodied carbon,¹⁸ future policies are likely to place greater emphasis on these emissions.

Tier 1 contractors, whilst positioned to translate these top-down requirements into actionable change, are however typically beholden to briefs and designs inherited from

their clients. This transformation, therefore cannot be accomplished in isolation. To shift the industry towards a sustainable future aligned with the UK government’s climate goals, clients, architects, and the broader supply chain must act as active partners in the journey.

The UKGBC Roadmap to Net Zero¹⁹ emphasises the need for improved data transparency and measurement. Echoing this principle, our report aims to encourage progress and catalyst the shift towards this crucial goal.

EMBODIED CARBON SPLIT

- Products / materials (A1-A3)
- Transport (A4)
- Construction (A5)
- Maintenance and replacements (B1-B5)
- End of life disposal (C1-C4)

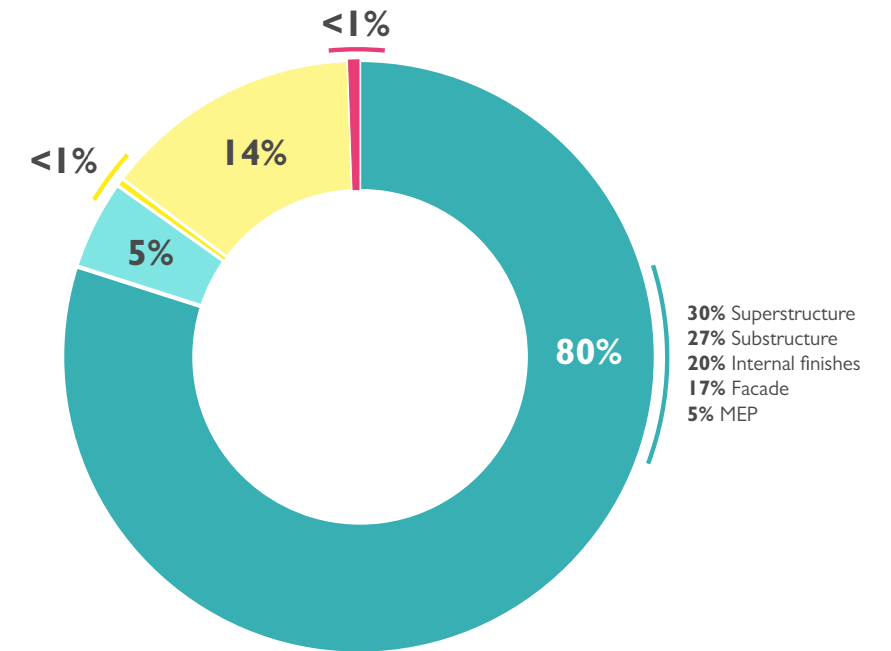


Figure 3: UKGBC - Historic (1990-2018) Built Environment emissions (excluding transport), with business as usual projections applied (BEIS EEP to 2040, with trendline extended to 2050)

¹³ All planetary boundaries mapped out for the first time, six of nine crossed
¹⁴ House of Commons Environmental Audit Committee, Building to net zero: costing carbon in construction, May 2022
¹⁵ UKGBC, Net Zero Whole Life Carbon Roadmap, 2021
¹⁶ BEIS Energy and Emissions Projections
¹⁷ Construction News, Carbon reporting and how it can affect your chance of winning work, July 2022
¹⁸ LETI Climate Emergency Design Guide, January 2020
¹⁹ UKGBC, Net Zero Whole Life Carbon Roadmap, 2021

A construction site at night, featuring several cranes and building structures under construction. The scene is dimly lit, with some lights visible on the structures and cranes. A large yellow diagonal graphic is overlaid on the left side of the image. The text "THE CURRENT PICTURE" is centered in the upper right area.

THE CURRENT PICTURE

Disclosure isn't a sufficient condition for decarbonisation, but it is a necessary one. As such, we have reviewed the maturity of reporting across the top 30 contractors.

Our assessment has been made through the lens of both PPN 06/21 and the Task Force on Climate-related Financial Disclosures (TCFD). Whilst assessing against TCFD may be somewhat premature (the Government's mandate is only a year old²⁰), the requirement will now apply to 86% of our contractor list.

Those in scope, typically with turnover greater than £500m or employing more than 500 people, are now obliged to disclose:

- **Governance:** The organisational governance around climate-related risks and opportunities
- **Strategy:** Actual and potential impacts on business strategy
- **Risks management:** Processes for identifying, assessing and managing climate-related risks
- **Metrics and targets:** Climate-related metrics and emission targets used to assess and manage relevant risks and opportunities. The principal climate-related risks and opportunities arising in connection with their operations

At a baseline level, we found that all companies reported on Scope 1, 2, and 3 emissions. Whilst it is a mandatory requirement of PPN 06/21, it is nonetheless an encouraging baseline when compared against the top 200 largest global real estate companies.²¹

The general level of transparency was good for 90% of contractors, with data readily available via company websites, annual reports, and explicit carbon reduction plans. However, a tenth of the organisations fell short, necessitating a deeper dive into third-party websites or company house records to unearth their emissions data.

Probing further, we have also assessed the contractors against the TCFD criteria, with our findings listed below and in the graphic overleaf.

1. Governance

As per the TCFD framework, the majority of surveyed organisations possess formal governance structures that assign specific roles for overseeing environmental and climate-related matters. While the 'who' is generally clear, the 'how' remains nebulous for approximately one-third of the contractors. These organisations fail to transparently communicate the board-level controls for monitoring and managing environmental initiatives.

Moving beyond TCFD requirements, none of the contractors have amended their articles of incorporation to include language that prioritises stakeholder impact. Furthermore, less than 15% have tied carbon emission profiles to executive incentives. Whilst frameworks are in place this infers they are of less priority than profitability and other perceived shareholder interests.

2. Strategy

All contractors demonstrate some level of strategic thinking in relation to short, medium, and long-term climate-related issues. However, disclosures are notably ambiguous as to how climate considerations impact financial performance. Less than half of the organisations meet the TCFD criteria for strategy planning and disclosure, specifically falling short in detailing the processes used to identify and integrate climate risks into their financial planning.

3. Risk management

Risk disclosure is the least mature area among the four TCFD criteria. Whilst 13 contractors align closely with the TCFD framework, offering a comprehensive breakdown of risks in their reports, the remainder offer minimal to no insight into their risk and opportunity management processes. This represents a clear opportunity for these organisations to enhance their climate disclosure practices.

4. Metrics and targets

Although all contractors report on scope 1, 2 and 3 emissions, as outlined later in the report, there is still room for improvement. Many companies fail to disclose internal carbon pricing mechanisms and metrics related to climate-related opportunities. For example, only a few contractors share revenue data from products and services designed for a low-carbon economy. 17 contractors do not meet this aspect of the TCFD criteria, signalling it as an important area for future improvement.

Our observations chime with an early-stage review of TCFD reporting across the FTSE 350.²² This parallel analysis also underscored the need for companies to be clearer about their assessment of the most important climate-related risks and provide better information around the potential financial impact of climate change.²³

²⁰ The TCFD reporting mandate came into effect on 6 April 2022 and is applicable for accounting periods that began on or after that date - so for December year ends, 2023 is the first reporting period

²¹ Scope 3 emissions in real estate: The elephant in the room

²² Analysis of the first 50 companies to report under Listing Rules, PWC, May 2022

²³ Further reinforcing our overview, it is worthy of note that from our sample, in the past 24 months the Carbon Disclosure Project (CDP) has given an A rating status to only Vinci, Royal BAM and Morgan Sindall

DISCLOSURE

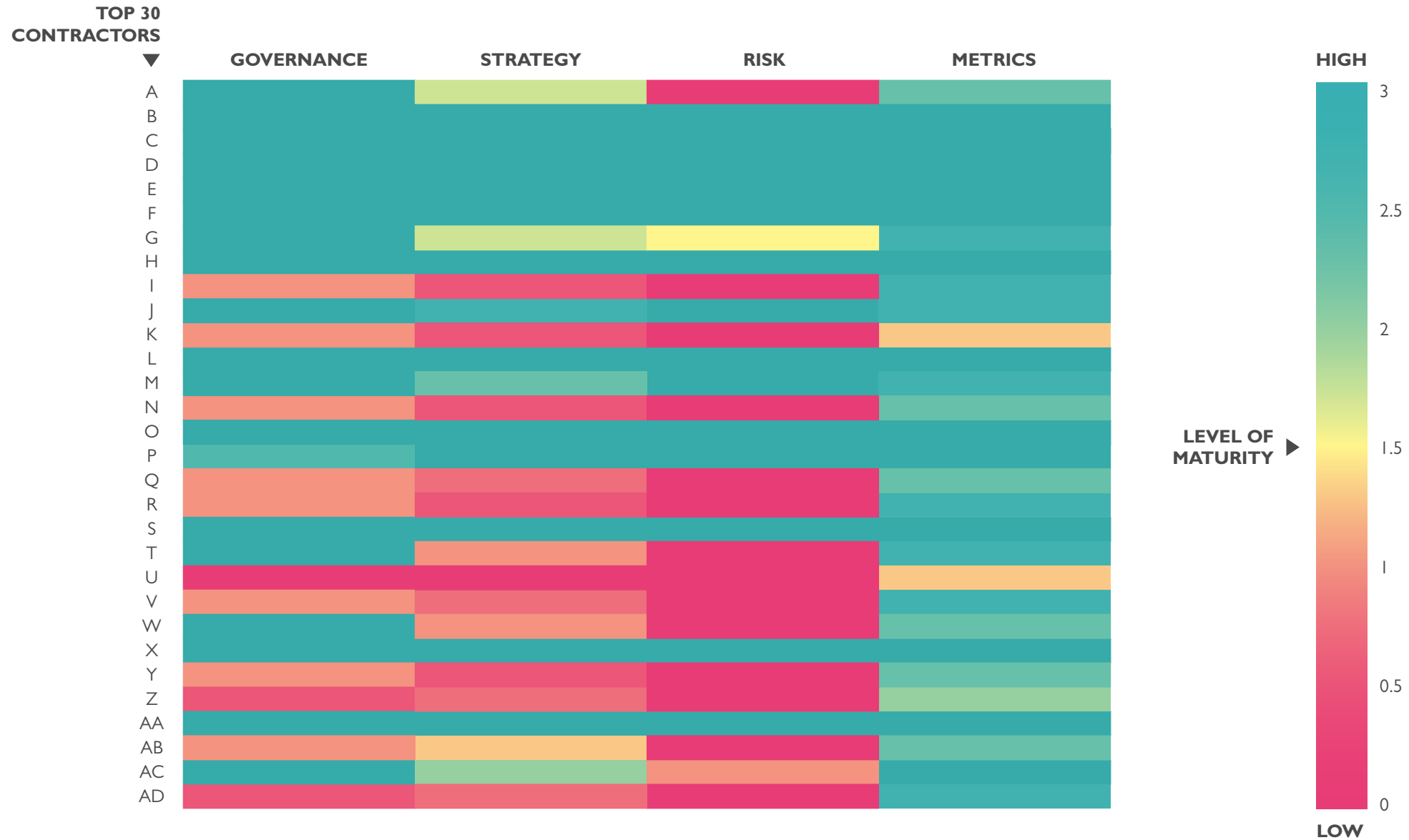


Figure 5: TCFD review

BEST PRACTICE

In our sample review, two organisations demonstrated good practice in specific areas of the TCFD criteria:

1. Risk management - Morgan Sindall

In their annual report, Morgan Sindall present a comprehensive overview of their climate-related risk and opportunity profile. They dedicate a distinct section demonstrating their compliance to the TCFD framework. Noteworthy practices include:

- **Risk and opportunity breakdown:** The report provides a clear breakdown of climate risks and opportunities, outlining the potential impact timeframe, the significance to the business and strategic response to each.
- **Financial implications:** A dedicated section describes the financial implications of these risks and opportunities
- **Integrated risk management:** The report succinctly outlines the processes for Identifying, managing and integrating risks into the company's overarching risk management framework.

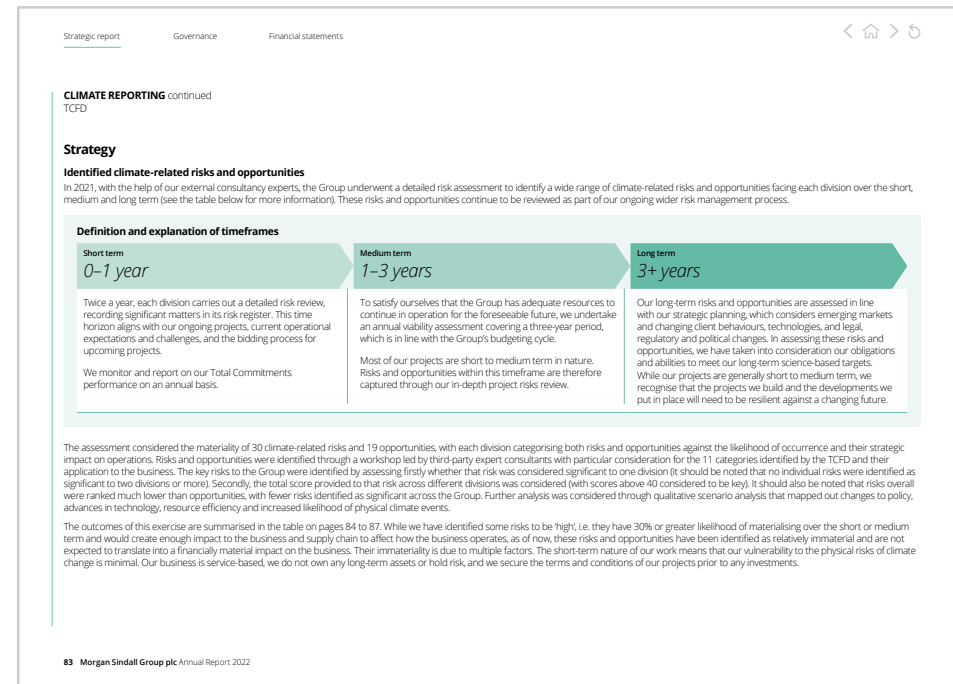


Figure 6: Morgan Sindall Group plc Annual Report 2022

2. Metrics and targets - Multiplex

Although many contractors are stronger in this area, Multiplex stood out for their highly visual data presentations, enabling stakeholders an easily understandable view of their carbon footprint. Distinctive features include:

- **Visual data representation:** Among the samples reviewed, Multiplex's presentation was perhaps the most intuitive visual depiction of metrics.
- **Progress tracking:** Their tables effectively track progression against prior years, with benchmarks for comparative analysis.
- **Industry-specific data:** Multiplex's data is tailored to the construction industry, with KPIs aligned to the GHG Protocol for organisational accounting and whole lifecycle carbon for project carbon accounting.

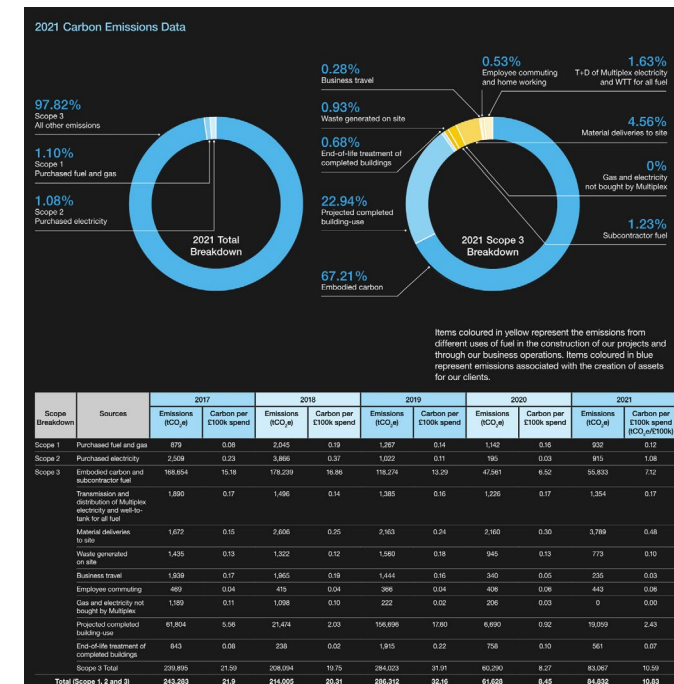


Figure 7: Multiplex ESG report

THIRD PARTY VERIFICATION

Our data reveals that five different verifying bodies are employed across our sample with the Science Based Targets initiative (SBTi) rising as the predominant choice.

Out of the 30 organisations in our dataset, 29 use third-party verification for their emissions reporting, indicating a strong commitment to data accuracy and transparency.

The significance of this trend is really positive. Third-party verification plays a crucial role in maintaining trust and integrity in emissions data. It also serves as a catalyst for continuous improvement, in both refining strategies within organisations but also unlocking peer comparisons. This fosters positive competition towards lower emissions, driving the industry towards a more sustainable future.

Whilst there is a journey ahead, the broad adoption of third party verification paves the way for more robust, consistent and trustworthy reporting in the future.

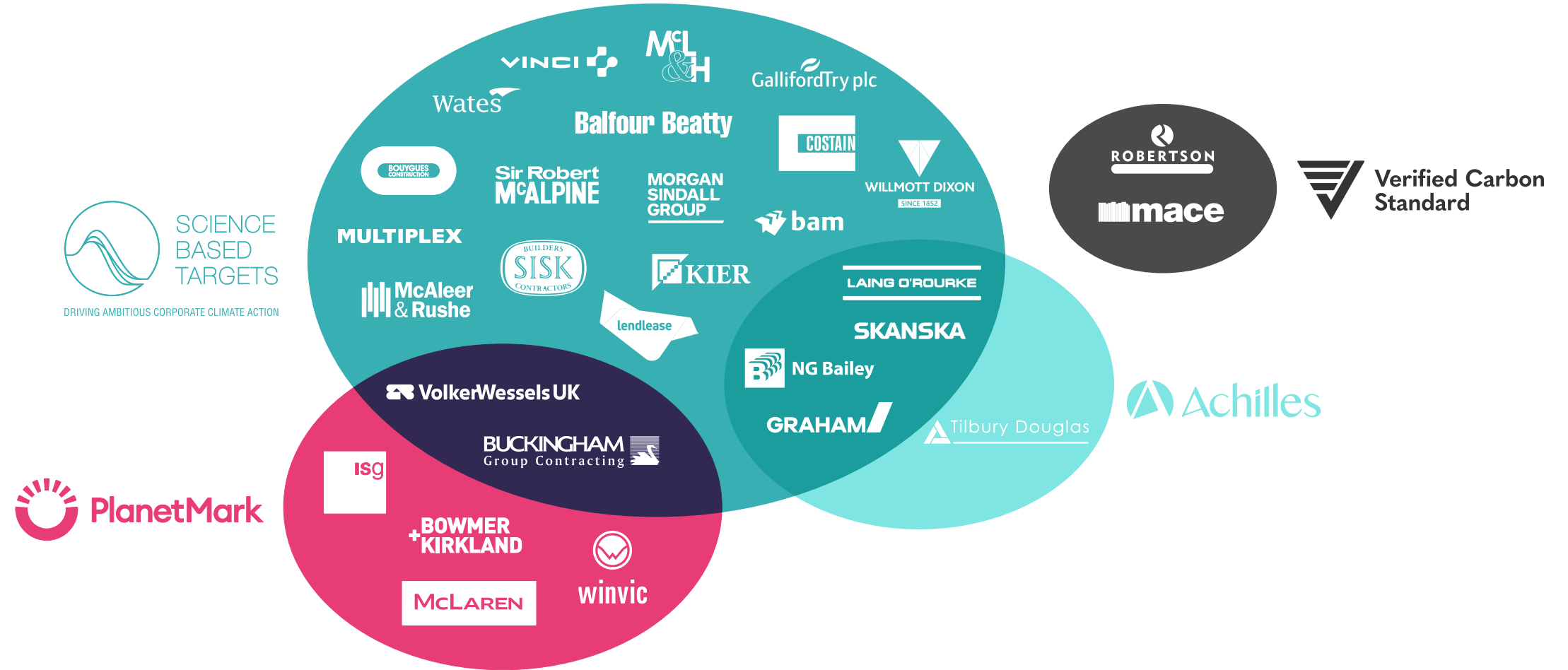
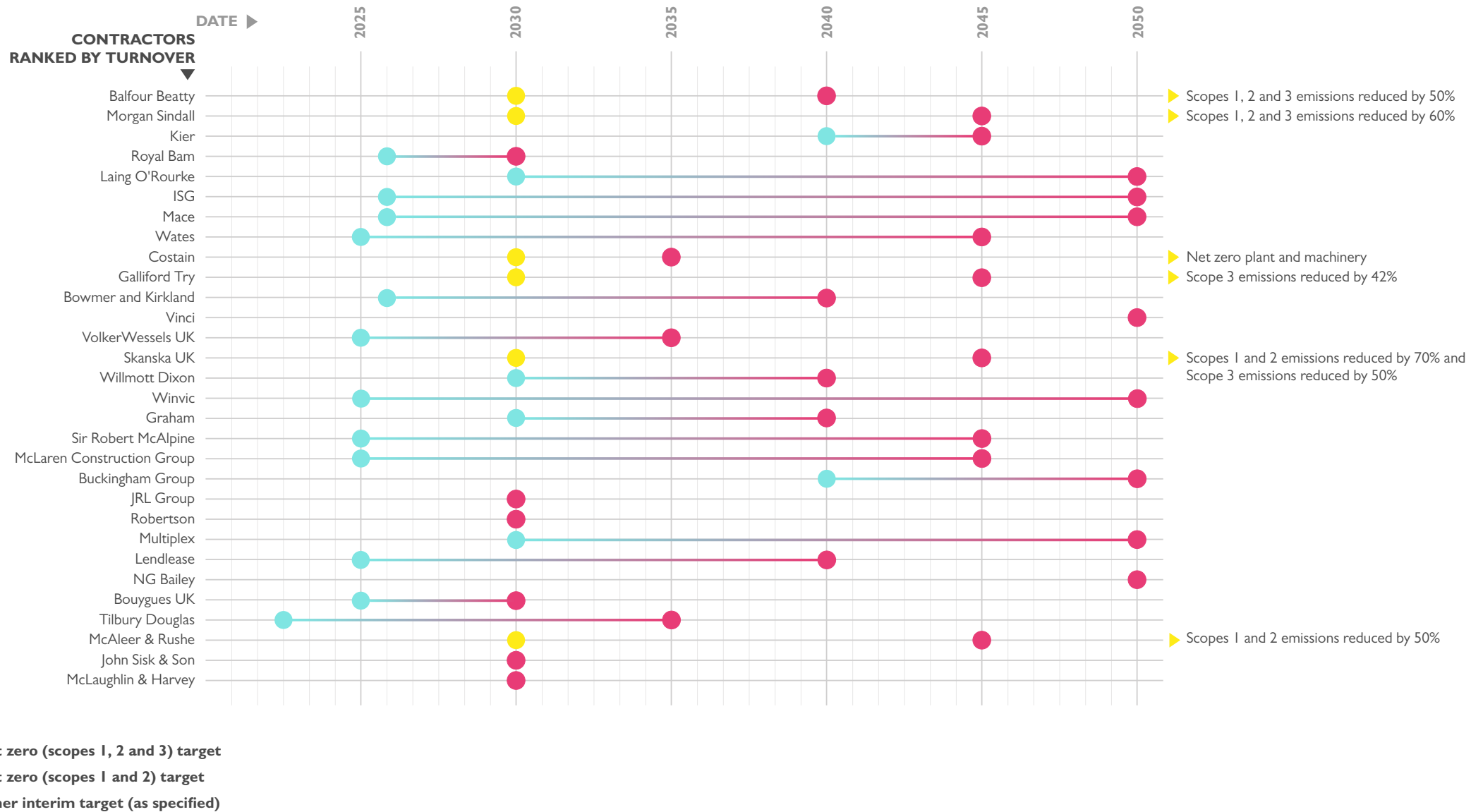


Figure 8: Third party verification

TARGET SETTING



It is encouraging to note that all top 30 contractors have crafted roadmaps to achieve net zero. These timelines span from the ambitious goal of 2030 to the national target of 2050.

A significant majority, 87%, have established interim targets / milestones they intend to meet en route to their ultimate net zero goal. Furthermore, nineteen of these companies are explicitly striving to achieve operational net zero within these timelines.

The remaining seven companies' roadmaps are influenced by additional objectives such as reducing their baseline targets by half or aiming for net zero through carbon offsetting.

The diversity of approaches underlines the complex task at hand and demonstrates the variety of strategies companies are adopting to make their contribution to a net zero future.

Figure 9: Net zero targets

PROGRESS TO DATE

To understand industry's progress in recent years, we have plotted the movement in Scope 1 and 2 emissions for each contractor, against their baseline data.

To account for variations in their workload profiles we have used the metric of $tCO_2/\text{£m}$ turnover. Whilst not a perfect measure, it does highlight some interesting patterns, with a mixed bag of results.

Over half the organisations have managed to reduce their emissions, leading to an average reduction of 13%, when outliers are excluded.

The average reported emissions for Scope 1 and 2 is $9.07 tCO_2/\text{£m}$, however this average masks a wide range, with reported data spanning from 1 to $40 tCO_2/\text{£m}$. Most contractors report emissions below $10 tCO_2/\text{£m}$, with an average of $4.5 tCO_2/\text{£m}$, when outliers are excluded.

However, we have also observed that 9 contractors reported emissions above $10 tCO_2/\text{£m}$. This variation reflects the diversity of business models, and workload profiles but also the maturity of sustainability strategies.

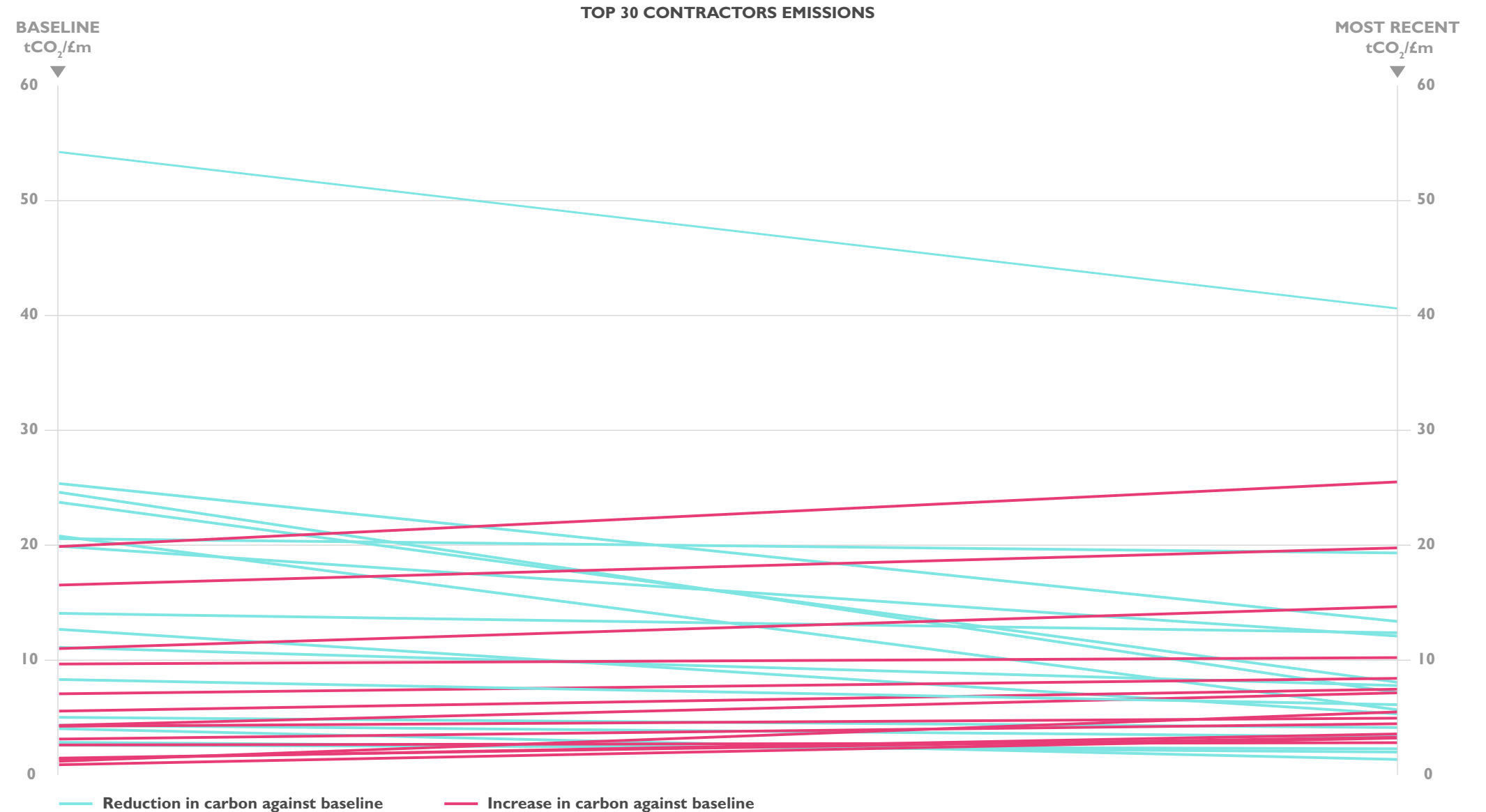


Figure 10: Contractor's baseline Scope 1 and 2 emissions data compared with their most recent emissions figures against turnover



FOCUSING IN THE RIGHT AREAS

Despite the strong focus on Scope 1 and 2 emissions, they only represent a small slice of the overall picture. Scope 3 emissions is where the real effort lies.

Multiplex's report, identified as best practice earlier, identifies that Scope 3 emissions contribute a staggering 97.82% (figure 6) of its total carbon emissions. However this is not uncommon.

In loosely drawing from the LETI's 2020 embodied carbon targets, we would ideally hope most buildings to have an embodied footprint of circa 600 kgCO₂e/m² or less.

Assuming an average building cost of £ 2600/m², building companies should therefore have a carbon footprint of circa 230tCO₂e/£m.

Whilst adjustments to both cost and carbon profile can undoubtedly create swings against this number, it highlights that Scope 1 and 2 emissions (at 10tCO₂e/£m or less) are often less than 5% of the overall.

**CURRENT
INDUSTRY
FOCUS
SCOPES
1 & 2**

**CARBON BLIND SPOT
SCOPE 3**

SCOPE 3 EMISSIONS

Beyond examining the Scope 1 and 2 emissions, we have also set out the reported Scope 3 profile of organisations. We have mapped both the defined baseline for Scope 3 emissions and stated performance extracted from organisations 2022 reports.

One of the most striking observations is the substantial disparity in reported figures, ranging from a low of 0.5 tCO₂/£m to 1,407.81 tCO₂/£m. While a certain degree of disparity is expected - given differences in organisational size, operations, and carbon management strategies - what is seen is notable.

Eight organisations, in particular, have reported an alarming rise in their Scope 3 emissions compared to baseline, with increases varying from 243% to 80,890%. These extremities suggest that organisations are grappling with the complexity of collecting accurate data and defining the scope of emissions to include.

A large majority of contractors - 21 out of 30 - reported Scope 3 emissions below 100 tCO₂e/£m. This is a figure considerably lower our expectations (of circa 230tCo2e/£m), raising questions:

- Are contractors fully accounting for all sources of Scope 3 emissions in their calculations?
- Or are there hidden carbon costs slipping through the cracks?

Our analysis underscores the urgent need for better standardisation in emissions reporting. What's more, the industry needs to place a much greater emphasis on Scope 3 emissions reduction. As it stands, the elephant in the room is that Scope 3 emissions account for a substantial proportion of total emissions in the construction industry, and yet, our data suggests that they may not be receiving the attention they warrant.

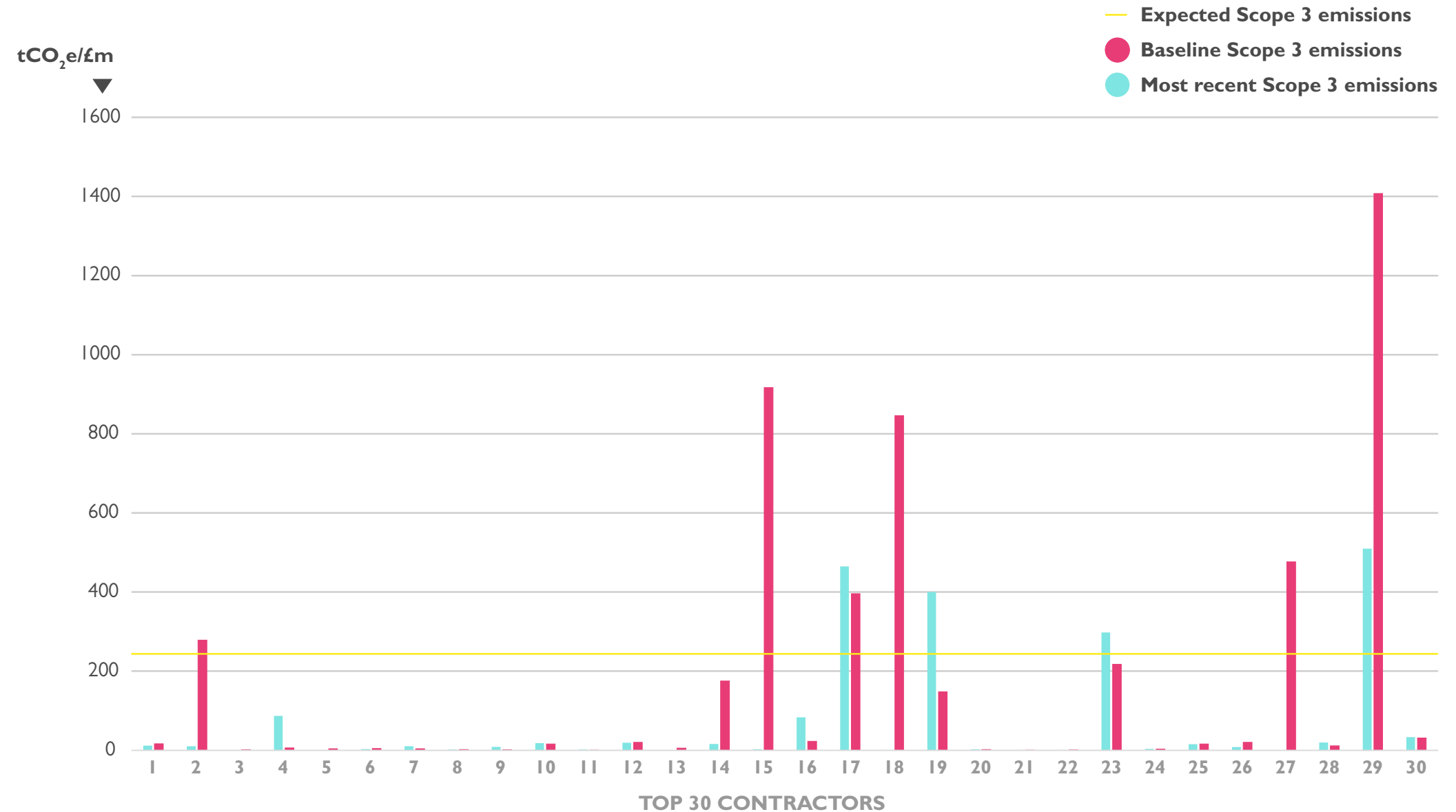


Figure 11: Baseline Scope 3 emissions vs most recent Scope 3 emissions

CURRENT ACTION PLANS

While the term ‘elephant in the room’ may understate the efforts made by contractors to minimise their carbon footprints, the data demonstrates a bias towards reducing Scope 1 and 2 emissions.

To gain a fuller picture, we have examined the carbon reduction plans and case studies across all 30 contractors. Through this analysis we have identified five recurring themes (figure 12). These again reaffirm the spotlight sits predominantly on direct emissions, echoing our observations that strategy, metrics and targets are skewed towards immediate, operational aspects.

Interestingly, two-thirds of contractors openly acknowledge their engagement with supply chains on the topic of Scope 3 emissions (figure 13) albeit they generally stop short of sharing specifics. Another 26% express an intention to follow suit, while the remaining 8% remain conspicuously silent on the matter.

The industry hasn’t completely sidestepped Scope 3 emissions; last year, Construction News showcased how several organisations were collaborating with strategic suppliers to trim down their Scope 3 emissions. Balfour Beatty, Galliford Try and Morgan Sindall have begun piloting the use of real time software to provide automated, real-time reporting of Scope 3 emissions, aimed at fostering data-driven decision making.

However, despite these progressive steps, the pace at which Scope 3 emissions are being addressed is slow. Our TCFD compliance review underscored gaps in strategic planning and risk management, providing context for why the industry focus remains anchored to Scope 1 and 2 emissions. The urgency of the climate crisis demands however that we shift gears and pivot focus, rapidly.

HOW CONTRACTOR ACTION PLANS TALK ABOUT SUPPLY CHAIN ENGAGEMENT

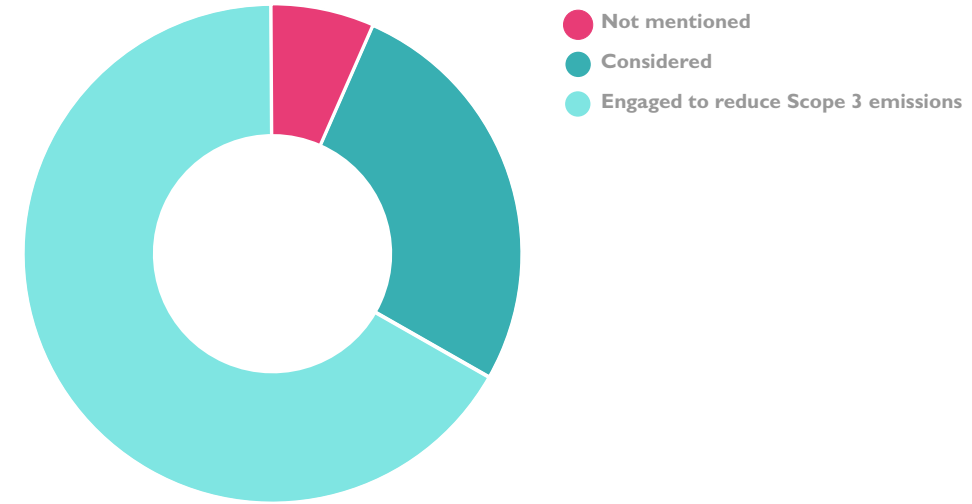


Figure 13: How Contractor action plans refer to supply chain engagement

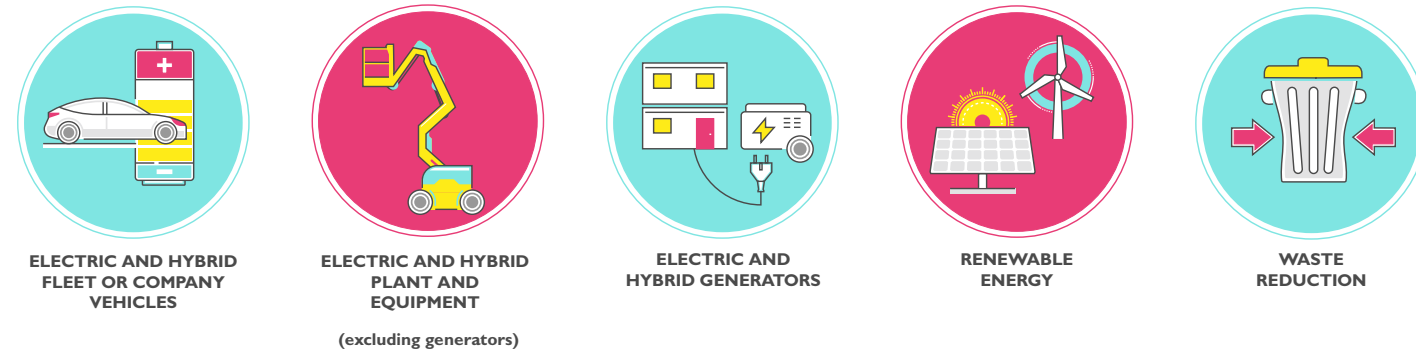


Figure 12: Five recurring themes within contractor carbon reduction plans

BEST PRACTICE

Stanhope Plc²⁴ stands as an exemplary developer, investor, and asset manager. As a B Corp accredited company, their approach to environmental, social, and governance (ESG) standards is an example of best practice.

Applying the Science-Based Target Initiative (SBTi), they account for Scope 1, 2, and 3 emissions and have implemented additional measures to scrutinise the carbon intensity of their development pipeline.

The embodied carbon from their construction activities makes up 80% of their total carbon footprint. Whilst many of our sample have wrestled with defining their strategies (relative to the TCFD framework), Stanhope have against a focused plan, including:

- **Considered project selection** to balance inherently carbon-intensive typologies with lower-carbon retrofits
- **Focus on efficient design** to yield low-carbon outcomes
- **Integrating carbon considerations** into their decision-making processes and procurement strategies, formalising their targets in collaboration with their delivery partners.

Stanhope openly cites the challenges faced by much of the market, in securing sufficiently detailed environmental data for the materials they procure (especially for M&E equipment) and the time it takes to obtain considered responses and technical information from the supply chain. Despite these hurdles, Stanhope Plc demonstrate that industry leaders can make meaningful strides towards reducing their environmental footprint while setting new standards for others to follow. For our industry to collectively deliver against the Science Based Targets, we will need to follow or improve upon their pathway to 2030.²⁵

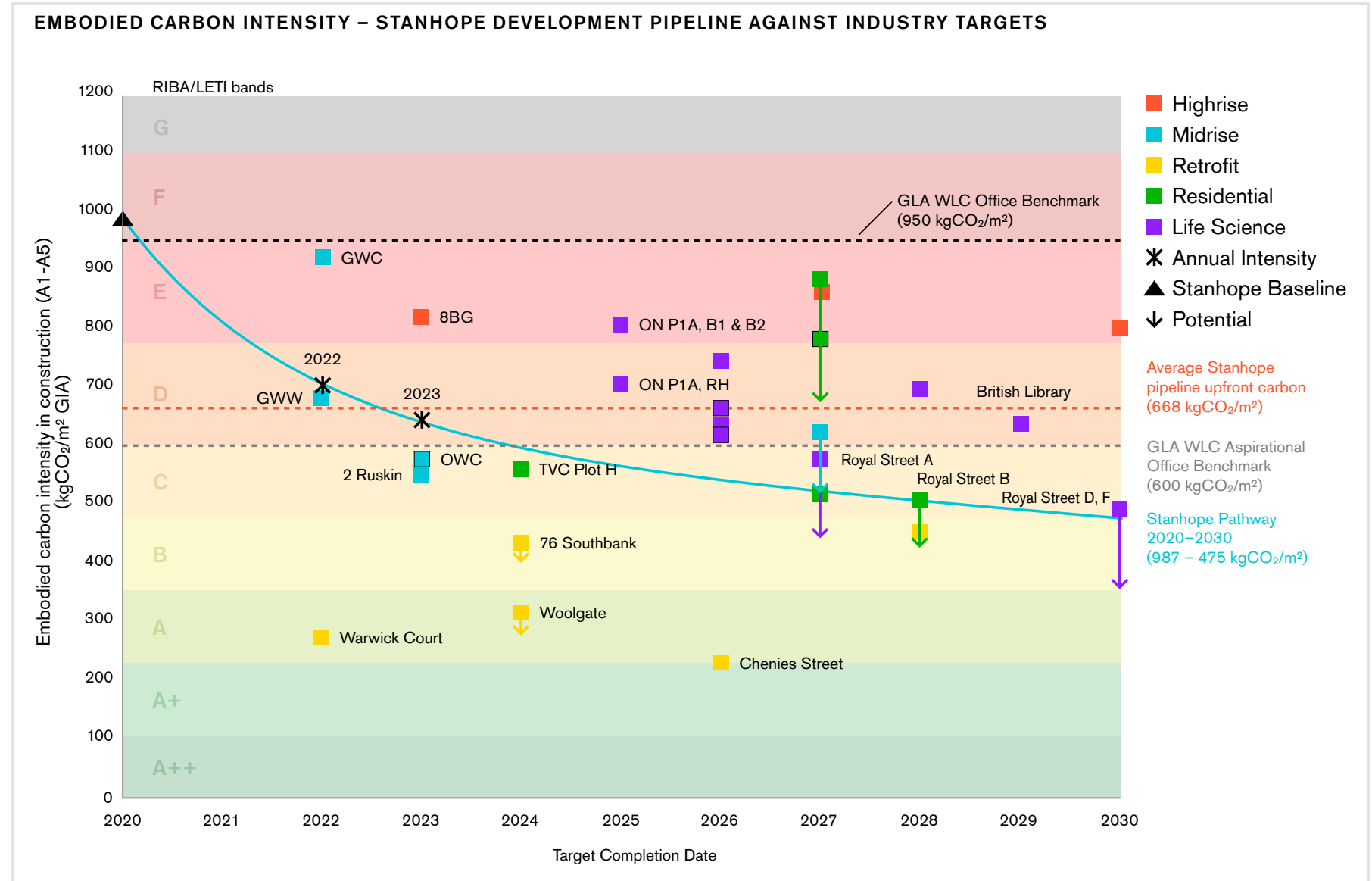


Figure 14: Embodied carbon intensity - Stanhope development pipeline against industry targets

²⁴ Stanhope plc, ESG Annual Report, 2021-2022

²⁵ 1.5°C Pathway for Global Buildings Sector's Embodied Emissions - Pathway Development Description, May 2023

DRIVING CHANGE



RECOMMENDATIONS FOR DRIVING CHANGE

Our analysis has uncovered a diverse landscape.

Contractors universally record their Scope 1, 2 and 3 emissions and nearly all lean on third-party verification. Unanimously, each contractor has committed to a net zero target, with a timeframe set between 2030 and 2050. The majority (87%) have also set interim milestones, plotting a tangible roadmap.

Notable progress has been made in curtailing Scope 1 and 2 emissions, with diesel free sites and a switch to greener forms of energy quickly becoming mainstream. Scope 3 emissions, however, remains the challenging frontier. Accounting for 94 – 98% of organisations' emissions, these indirect emissions lack both comprehensive data collection strategies and clear reduction plans. This raises questions about the feasibility of the declared net zero goals.

To bridge this gap, we recommend a multi-faceted strategy:

ORGANISATIONAL LEVEL

I. Enhance transparency and accountability:

- **Board-level oversight:** We recommend publishing a comprehensive governance framework that outlines how the board oversees and manages climate related issues. This should include tying climate goals, especially Scope 3 emissions, to executive remuneration, to strengthen alignment with stakeholder interests.
- **Embodied carbon metrics:** To provide meaningful insight, organisations should mature their data collation and reporting mechanisms for Scope 3 emissions.

We recommend that contractors forecast and measure the embodied carbon in all contracted schemes by default.

- ### 2. Training and skills development:
- Mainstreaming low-embodied carbon design and delivery will require systematic improvements in carbon literacy and competency across all levels. Organisations should therefore invest in targeted training and skills development

3. Risk management and financial disclosure:

Organisations should integrate thorough climate-risk assessments their overall financial and strategic planning. This should be supplemented by clearly disclosing identified risks and mapping them to potential financial impacts, in line with TCFD criteria.

- ### 4. Supply chain engagement:
- Aligned with UKGBC recommendations²⁶, contractors should collaborate with their supply chains and material manufacturers to establish carbon intensity reduction targets. Mandatory disclosure of supply chain data and monitoring construction site emission are also essential.

5. Investment in R&D and new ways of working:

Tackling the diverse activities and sources encompassed in Scope 3 emissions requires innovative solutions. R&D investment in new materials, technologies, and construction methods is crucial, especially in fostering a circular economy.

Initiatives such as Circular Steel²⁷ have demonstrated potential; organisations should familiarise themselves with both the commercial implications and technical feasibility of such approaches.

PROJECT LEVEL

- ### I. Project roadmaps:
- Following LETI's Climate Emergency Design Guide and Low Embodied Carbon Specification and Procurement Guides, project teams should embed carbon reduction goals within internal protocols, procedures and checkpoints.

²⁶ UKGBC, Net Zero Whole Life Carbon Roadmap, 2021

²⁷ Circular Steel

RECOMMENDATIONS FOR DRIVING CHANGE

ECOSYSTEM

1. Clear guidelines for Scope 3 emissions reporting:

Whilst the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard offers a defined framework it falls short in enabling comparisons between companies. The development of the ENCORD Construction CO2e Measurement Protocol manage consensus across many of our sample a decade ago, however organisations have since diverged in approach.

Further work, via Infrastructure Projects Authority, CLC or Professional Institutions is required to standardise data collection and enable cross-organisation comparison in supporting improved performance and demand for low-carbon solutions.

2. Expansion of PPN 06/21: The UK government’s Procurement Policy Note (PPN) 06/21 mandates suppliers to report only five categories of Scope 3 emissions. This should be expanded to include significant construction industry categories such as ‘purchased goods and services’ and ‘capital goods.’

Alternatively, industry via CO2nstruct Zero (Construction Leadership Council) should ensure that their stated “Priority 7: Implementing carbon measurement to support our construction projects in making quantifiable decisions to remove carbon” reflects this scope.

3. Enhancement of Considerate Constructors Scheme (CCS):

We recommend that the existing CCS is expanded to reinforce earlier recommendations e.g. assessing the maturity of a projects embodied carbon reduction strategy, (borrowing elements from the LETI climate toolkit) and consideration to workforce training that address embodied carbon and climate change awareness.

4. Cost advisors: The Government’s Net Zero Carbon in Construction Guidance Note²⁸ outlines that the costs and benefits of improved sustainability and reduced carbon emissions should be included in Should Cost Models. We would like to see however that the cost of the status quo is also captured.

We encourage the RICS to incorporate carbon pricing within their New Rules of Measurement to nudge the industry to account for carbon impact alongside costs. This would anticipate and prime the industry for the introduction of future carbon pricing policies.

5. Policy advocacy: Advocacy for government policies that support Scope 3 emission reduction is key. For instance broadening the scope of the 2022 Sprint Statement of a “time-limited zero-rate of VAT for installation of certain Energy saving materials” could stimulate a sector wide shift towards retrofiting.

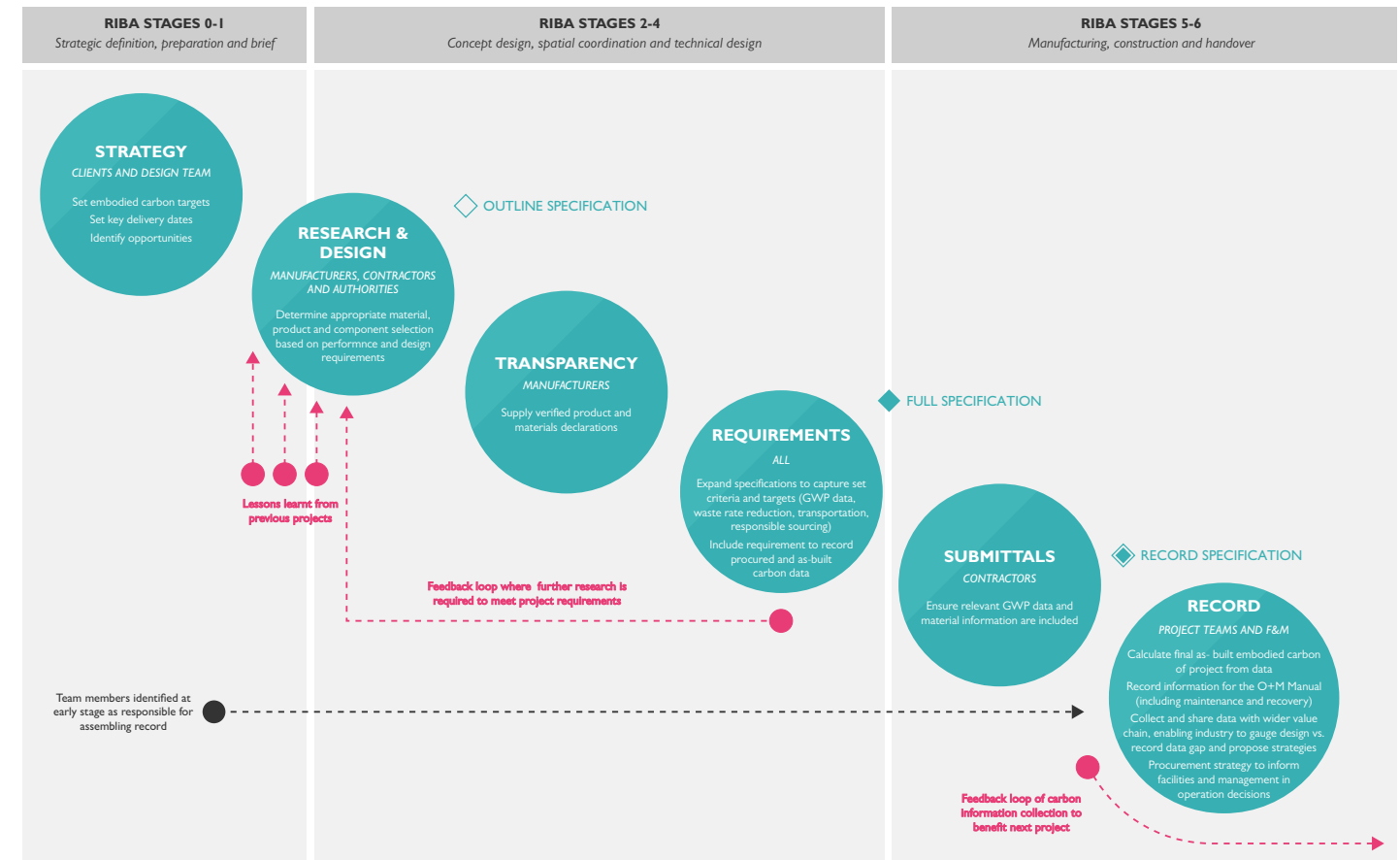


Figure 15: LETI - steps of a successful carbon reduction roadmap

REGULATORY TAILWINDS

Producing this report carries an inherent risk. By highlighting gaps in both reporting and action, we run the risk of creating negative social proof²⁹ -potentially compounding delays in progress under the pretext that everyone is falling behind. However, any sense of breathing space is illusory, particularly in light of the rapidly evolving regulatory landscape.

We noted earlier that 86% of our contractor list are now subject to the Government's mandate regarding the Task Force on Climate-related Financial Disclosures (TCFD).³⁰ Compliance with these requirements is expected to yield better information around the potential financial impact of climate change.³¹

At least 6 businesses on our list also fall under the scope of the EU's Corporate Sustainability Reporting Directive (CSRD), which took effect on 5th January this year. CSRD introduces mandatory audit and assurance mechanisms aimed at reducing greenwashing by improving the reliability and comparability of sustainability data. It also mandates disclosures from a "double materiality" perspective, requiring companies to report how sustainability issues affect them and how their operations impact the broader environment and society. While the directive's final requirements are less extensive than initially proposed, phased-in reliefs have been included.

Both sets of regulations underscore the imperative for businesses to understand their environmental footprint, and the attendant risks and opportunities posed by climate change. In fact, the regulations push companies towards a holistic understanding, extending beyond the typically focus on Scope 1 and 2 emissions to encapsulate Scope 3 emissions as well.

The measurement, management and mitigation of Scope 3 emissions represent only just one aspect of an organisation's wider climate-related risks and opportunities. Nonetheless, they often serve as a revealing indicator for a company's overall environmental maturity. Using our earlier observations as a litmus test for the contracting market's broader commitment to environmental stewardship, climate strategy, supply chain alignment and readiness to adapt to a rapidly changing regulatory landscape, it becomes clear that many companies need to sharpen their focus - and do so quickly, if only to remain compliant with regulation.

29 Where people mimic undesirable behaviours in others

30 The TCFD reporting mandate came into effect on 6 April 2022 and applicable for accounting periods that began on or after that date - so for December year ends, 2023 is the first reporting period

31 PWC, Analysis of the first 50 companies to report under Listing Rules, May 2022

THE OTHER ELEPHANT

The construction industry stands at a paradoxical crossroads. Traditional growth-centric business models now grapple with the pressing requirement to dramatically reduce carbon emissions. Bridging this chasm requires innovative practices that balance sustainable growth with extensive carbon mitigation—an imperative propelled by both environmental responsibility and commercial viability.

In today's evolving market landscape, ESG (Environmental, Social, and Governance) considerations have taken centre stage. End-users and investors alike are increasingly opting for buildings with reduced embodied carbon, spurred by a mix of heightened environmental consciousness, spiralling energy costs, and static incomes. This shift is reflected in the surge of green loans amongst multiple contractors we've reviewed.

However, the conventional 'growth equals success' mindset in the contracting market faces the Shirky Principle: where institutions perpetuate the problem they are trying to solve. The backbone of a contractor's business is building more; part of the carbon emission issue they are challenged to address. This is the other elephant in the room.

Radical transformations in other sectors illustrate potential pathways. Maersk, the global shipping company, recognised that more than half of their top 200 customers have science based or zero carbon targets and thus have significantly invested in sustainable solutions in anticipation of burgeoning demand. Ørsted, a Danish power company,

looked beyond being 'less bad', to instead creating 'more good', pivoting from fossil fuels to renewable energy.

Contractors must seriously consider embracing similar transformations and explore alternative business models, such as retrofitting, which aim to not just reduce but strategically avoid carbon emissions altogether. As developers, such as FORE Partnership,³² lead the way, contractors need to consider their commitments to doing well by doing right.

By embracing circular economy principles and focusing on resource optimisation, construction firms can reduce their raw material dependence and shrink their total carbon footprint. However to unlock competitive advantage within the value chain requires strategic investment. With almost half of our sample failing to identify and integrate climate risks into their financial planning strategies, a change in approach is unlikely in the short-term.

However businesses should be alert to external forces. Public perception and brand value in the industry are now closely tied to its sustainability ethos. Controversy surrounding the demolition of Marks & Spencer on Oxford Circus³³ has highlighted the reputational risks associated with perceived unsustainable practices. In a world where heatwaves bear the names of oil and gas companies³⁴ to underline their environmental impact, construction firms must pivot towards sustainability quickly or risk significant reputational damage. Risk screening assessments should be

broadened beyond contractual, delivery and financial risks to consider the carbon profiles of prospective projects, when evaluating the suitability of work.

Similarly, failure to take pro-active steps in transitioning to low-carbon operations run the risk of a loss in market share and non-compliance penalties as we approach net zero targets. The Climate Change Committee (CCC) forecasts rising costs for carbon reduction, spotlighting the financial risks for businesses failing to decrease their carbon footprints. But will contracting organisations be bold enough to set carbon limits and decline work that doesn't meet their criteria?

Who will show industry leadership needed? This is a question that extends beyond the contracting fraternity; all parties in the value chain, from designers to advisors, must bear responsibility for the carbon content in the assets they create.

Yet collective responsibility should not dilute individual and organisational action.³⁵ We look towards forward-thinking organisations that understand the climate-related risks and opportunities tied to their operations, as evidenced by:

- Business leaders who consider carbon budgeting integral to their 'licence to operate.'
- Executives who prioritise low carbon solutions as organisational defaults, irrespective of short-term cost premiums.

- Remuneration committees that weigh environmental targets, alongside cash flow and growth when determining executive bonus'.
- Business development teams that include carbon impact assessments into their project selection criteria, rejecting work that lacks a clear commitment to carbon reduction.

These transformative shifts are the urgent considerations contractors and other stakeholders must address. For those seeking a competitive edge, investment in sustainable practices provides a unique advantage in a rapidly evolving marketplace.

Successfully navigating this complex transition therefore hinges on a clear understanding of climate-related risks and opportunities, coupled with a strategic approach to mitigate those risks and capitalise the opportunities. If the industry continues to prioritise growth, it must not lose sight of the urgent need for carbon reduction; the decisions we make today will irrevocably shape the sustainability of our built environment for generations to come.

32 FORE Partnership has committed to no new construction, with refurbishment of existing assets only

33 Architects Journal, Gove Rejects M&S Oxford Street Demolition, July 2023

34 Forbes, Meteorologist Names 2023 U.S. Heat Waves After Oil, Gas Companies: Amoco, BP, Chevron, July 2023

35 The bystander effect is a theory that refers to the reduced likelihood of individuals taking action when others are present

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[Circular Economy](#)

Circle Economy

[The Circularity Gap Report 2023](#)

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[The UK's Leading Technology Innovation and Research Centre for Offshore Renewable Energy](#)

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[Emissions Savings](#)

EDHEC-Risk Climate Impact Institute

[Glossary](#)