



UK Net Zero Carbon Buildings Standard

Pre-Launch Update 2
December 2025

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Hello!

Following the publication of our first Pre-Launch Update last month, we are delighted to share the second in the series. These updates are designed to give you early insight into what to expect in Version 1 of the UK Net Zero Carbon Buildings Standard (the Standard).

This update is focused on our Pilot Testing programme - a hugely rewarding step in the process to launching Version 1. We were thrilled by the response to our call for applications, with 205 different projects, across 134 owners taking part. Each contributed invaluable feedback based on their experience of applying the Standard.

Although the Pilot Testing has formally concluded, our work certainly hasn't stopped. We are currently incorporating the feedback into Version 1, ensuring the Standard reflects the real-world insights shared with us. In this report, we outline some of the key themes we heard, and the actions we are taking in response. It's important to note that this update is only a snapshot; our Technical Steering Group has been fully engaged throughout the Pilot, and our Pilot Team has compiled the full findings in a dedicated report.



That leaves me to say a huge thank you to the Pilot Testing Programme Team at Greengage Environmental, led by Amrita Dasgupta Shekhar, Head of ESG and Net Zero and Akshita Gupta, Senior Consultant.

None of the progress presented in this update would have been possible without the dedication of our Technical Steering Group and the incredible volunteers across our Working Groups and beyond, who continue to support the development of the Standard.

Last - but by no means least - thank you to our Pilot Testers for your thoughtful feedback, insights and for embracing the collaborative spirit of the Standard. Throughout this update, you will see a small selection of case studies showcasing the fantastic range of projects involved.

We look forward to sharing more details and updates with you soon. Until then, thank you for your continued support.



Ellie Burkill
Chair of the Technical Steering Group
Senior Consultant, XCO2

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1. About the Pilot Testing

Background to the Pilot Testing process.



UK Net Zero Carbon
Buildings Standard

Section Summary



- This section provides an introduction to the aims and objectives of the Pilot Testing before providing an overview of our Pilot participants and insight into our data analysis and reporting approach.

Illustrative Case Studies

Throughout this section, you will see a small selection of **case studies** showcasing the fantastic range of projects involved in the Pilot. We are grateful to everyone who has contributed to the development of these case studies.

These projects have tested the application of the UK Net Zero Carbon Buildings Standard Pilot Version to their projects and shared their learning to inform the development of Version 1. *Please note, their performance outcomes have not been verified.*

Theatr Clwyd

Sector: Culture

Project Stage: Construction

Summary: Theatr Clwyd comprises a sprawling, mid-70s arts complex, originally designed to house both theatre and TV production spaces. It was in urgent need of reconfiguration and upgrading to open the theatre to its wonderful landscape and the community that it serves. The retrofit repurposes the existing fabric and replaces only what was essential to enable the organisation to expand its role as Wales's biggest producing house as well as the cultural centrepiece of the region.

Thanks to Haworth Tompkins

Supported by Betts Associates, Skelly & Couch and Gilbert Ash

Case Studies from our Pilot Programme have tested the application of the UK Net Zero Carbon Buildings Standard Pilot Version to their projects and shared their learning to inform the development of Version 1. It should however be noted that their reported performance outcomes have not been verified.



"We recognise the importance of introducing a UKNZCBS coordinator or administrator role, to manage the verification process and ensure accountability of all relevant parties through the early stages into post occupancy."

Case Study: Hamilton House

Sector: Offices

Project Stage: In Use

Summary: A Grade II listed heritage office building, located in Central London. Refurbishments have included removal of gas, lighting upgrades and sensor based energy monitoring systems. The EUI post refurbishment works stands at 136 kWh/m²_(NIA) annum. Further improvement measures are proposed via a retrofit plan.

Thanks to Dorrington

Supported by Greengage Environmental Ltd

Case Studies from our Pilot Programme have tested the application of the UK Net Zero Carbon Buildings Standard Pilot (Rev2) to their projects and shared their learning to inform the development of Version 1. It should however be noted that their reported performance outcomes have not been verified.

Pilot Programme
Case Study



"Applying the Standard to Hamilton House revealed we met most requirements, sparking technical queries and a desire to share insights."


Pilot Testing - Aim and Objectives



Aim

The aim of the Pilot Testing was to gather feedback on the process and experience of implementing the Standard to buildings/ projects across a full range of sectors and building classifications.

Objectives



Assessing Usability

- Structure
- Layout
- Ease of use
- Completeness



Evaluating Clarity

- Readability
- Understanding
- Consistency across building types



Market Preparedness

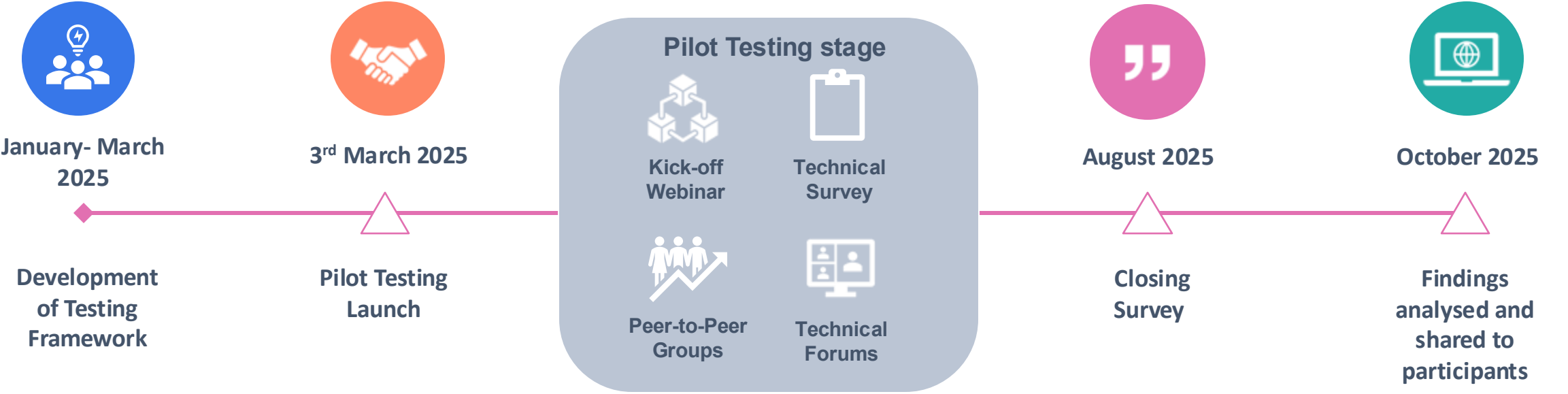
- Readiness
- Data accessibility
- Achievability of targets



Gathering Feedback

- Broader benefits of applying The Standard

Stages of The Pilot Testing



Stage 1	Stage 2	Stage 3
Testing Framework Development Defining aims, engagement routes, logistics etc.	Pilot Testing Included a detailed Technical Survey, comprising 90 questions and covering all aspects of the Standard, self governing peer-to-peer groups to facilitate knowledge sharing and support collaborative problem solving, and structured technical forums to enable direct engagement between participants and the UKNZCBS Technical Steering Group.	Results Analysis of results and production of an internal findings report, an external summary report and our final Closing Webinar.

Case Study: No. 1 Ancoats Green

Sector: Homes

Project Stage: Completed Summer 2025

Summary: A high quality development of 129 homes, kicking off the final phase of regeneration within Ancoats. Defining targets early in the design process means the project is within touching distance of the vast majority of pass/fail requirements. Through support from the GMCA, PV was added late in the project, which has made it possible to achieve this element of the Standard. Embodied Carbon, cooling and refrigerant requirements have been challenging.

Thanks to Manchester City Council/This City

Supported by Buttress, Warm, Curtins, Method & Wates

Case Studies from our Pilot Programme have tested the application of the UK Net Zero Carbon Buildings Standard Pilot (Rev2) to their projects and shared their learning to inform the development of Version 1. It should however be noted that their reported performance outcomes have not been verified.

Pilot Programme
Case Study



"We were within, or in touching distance of, the vast majority of pass/fail elements. With small adjustments early on in the design, we believe we can hit the Standard in our future developments."

Pilot Testing Scope and Limitations



Scope

1. The primary purpose was to gather comprehensive feedback on the practical implementation of the Standard across a diverse range of building projects and sectors.
2. The Pilot was open for applications to all buildings within the UK, encompassing a wide range of typologies, sectors, and levels of ambition.
3. The Pilot contained a mix of best performing and typical representative buildings within portfolios. This provided an understanding of the typical issues faced by projects with varying levels of ambition. It also included projects at various stages of development—from early design through to post-construction—to help identify the challenges that may arise at each stage of the project lifecycle.

Limitations

The Pilot Testing did not cover:

1. Independent review of data and feedback provided by participants (due to time and resource constraints).
2. Independent verification of actual projects, including submission proformas.

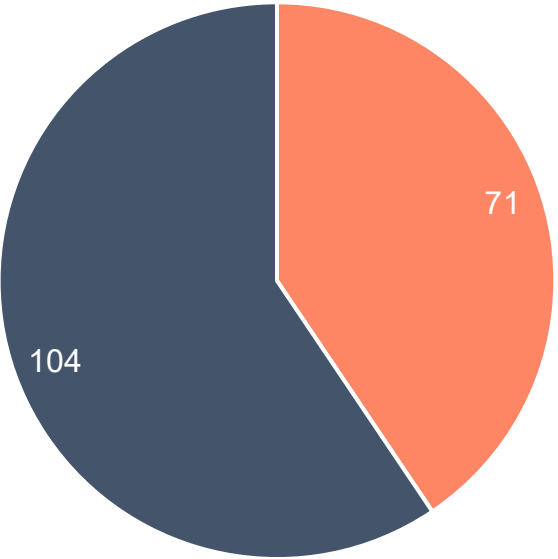
The following slides provide a summary of participants by sector, building type, works type, ambition level and location.

Participants by Sector and Building Type



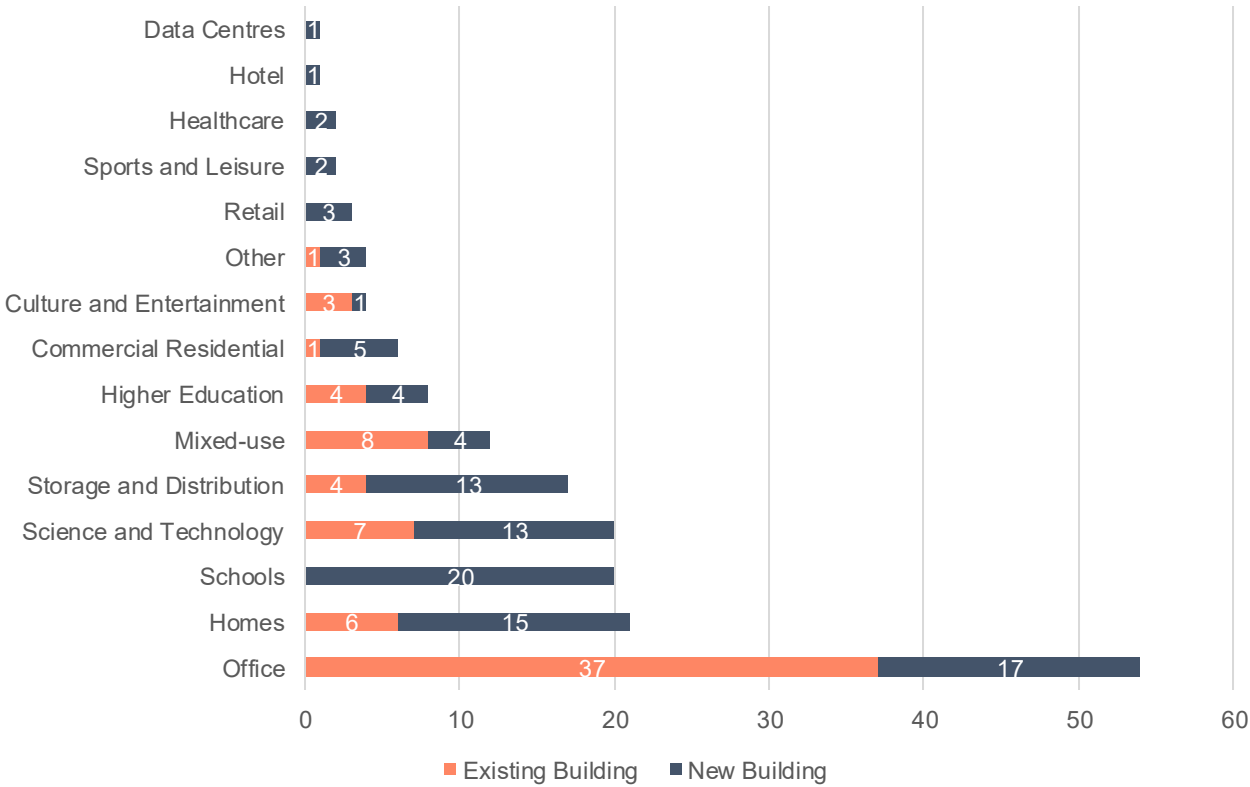
All sectors covered by the Pilot Version of the Standard were represented, with both new and existing buildings represented.

Participants by Building Type



Existing Building New Building

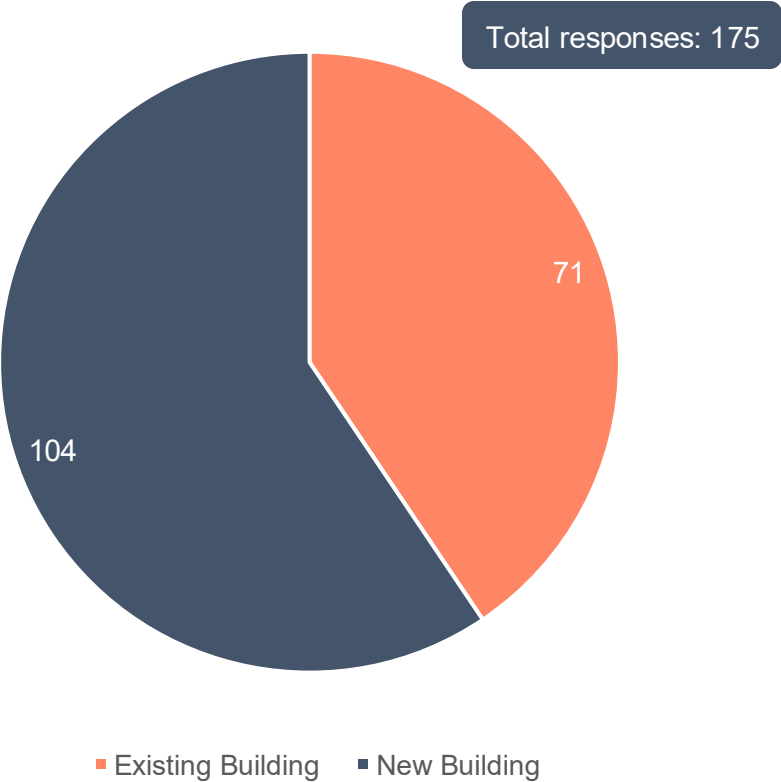
Participants by Sector



Participants by Building/Works Type



We saw a range of works types reported, as per the definitions in the Pilot Version of the Standard.



Building Type	Type of works	Number of Projects
Existing Building	New Works, Retrofit Works	1
	No works are taking place	5
	Non-reportable Works	2
	Reportable Works	5
	Retrofit Works	52
	Unknown	6
Total		71
New Building	New works	102
	Unknown	2
Total		104
Grand Total		175

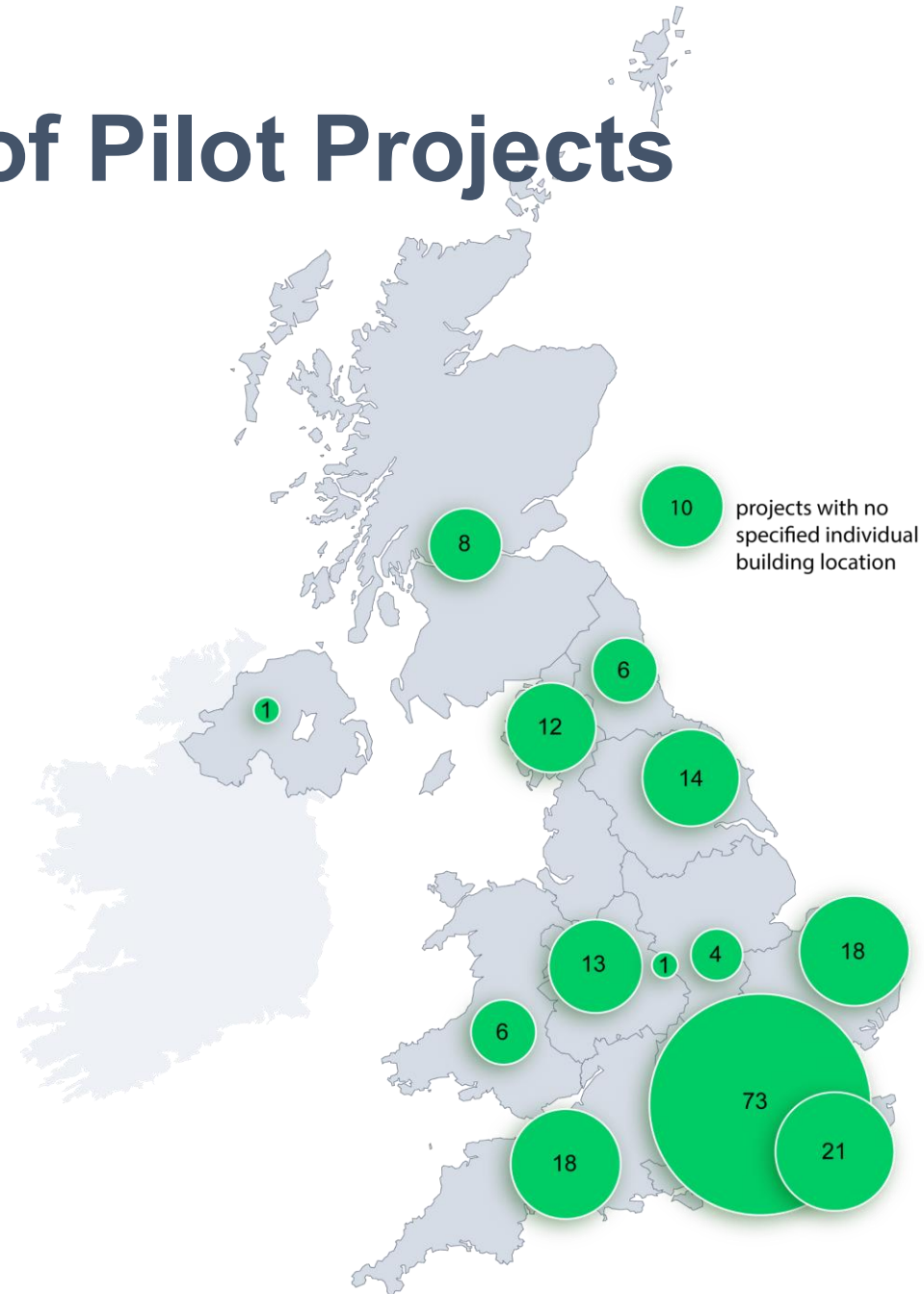
Note: Where the responses were not clear, participants were asked for further details or clarifications. 8 participants were unable to provide the information. In these instances, the work type has been classified as "unknown."

Geographical Spread of Pilot Projects



The Pilot Testing included participants from across the UK.

This diversity enabled us to explore local factors — including policy, planning, and other region-specific challenges — that could influence how achievable the Standard is in different contexts.



Case Study: Glyncoch School

Sector: Schools

Project Stage: Construction

Summary: Glyncoch School sets new benchmarks for educational facilities by simultaneously targeting multiple rigorous environmental and wellbeing standards: Passivhaus Classic certification for exceptional energy, quality and comfort performance; WELL certification for occupant health and wellness; BREEAM Outstanding for overall sustainability; and Building with Nature accreditation for biodiversity and green infrastructure.

Thanks to Willmott Dixon / Rhondda Cynon Taf

Supported by Stride Treglown, PHG Consulting, McCann & Partners and Mark Morant ARDA

Case Studies from our Pilot Programme have tested the application of the UK Net Zero Carbon Buildings Standard Pilot (Rev2) to their projects and shared their learning to inform the development of Version 1. It should however be noted that their reported performance outcomes have not been verified.

Pilot Programme
Case Study



"A holistic approach demonstrates how early coordination, strategic material selection, and integrated performance planning can successfully deliver buildings ready to be verified as Net Zero Carbon Aligned."

Case study: Theatr Clwyd

Sector: Culture and Entertainment

Project Stage: Construction

Summary: Theatr Clwyd comprises a sprawling, mid-70s arts complex, originally designed to house both theatre and TV production spaces. It was in urgent need of reconfiguration and upgrading to open the theatre to its wonderful landscape and the community that it serves. The retrofit repurposes the existing fabric and replaces only what was essential to enable the organisation to expand its role as Wales's biggest producing house as well as the cultural centrepiece of the region.

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Pilot Programme
Case Study



"We recognise the importance of introducing a UKNZCBS co-ordinator or administrator role, to manage the verification process and ensure accountability of all relevant parties through the early stages into post occupancy."

Case study: Panattoni Park Central (A1M), Doncaster

Sector: Storage & Distribution

Project Stage: Completed

Summary: The 72,772 m² development comprises a single-storey warehouse, a three-storey office, and two, two-storey hub offices with service yard, roadways, car parking and 17 cycle shelters. The development has achieved a BREEAM Outstanding rating and EPC A Rating, with an upfront carbon target of less than 300 kgCO₂/m² in line with the UKGBC Framework Definition (2019) and RICS Whole Life Carbon Assessment Professional Statement Edition 2.

Thanks to Winvic Construction / Panattoni UK

Supported by PHP Architects, Burrows Graham Ltd,
PHSE Mechanical Projects Ltd and Walter Miles
Electrical Engineers

Case Studies from our Pilot Programme have tested the application of the UK Net Zero Carbon Buildings Standard Pilot (Rev2) to their projects and shared their learning to inform the development of Version 1. It should however be noted that their reported performance outcomes have not been verified.

Pilot Programme
Case Study



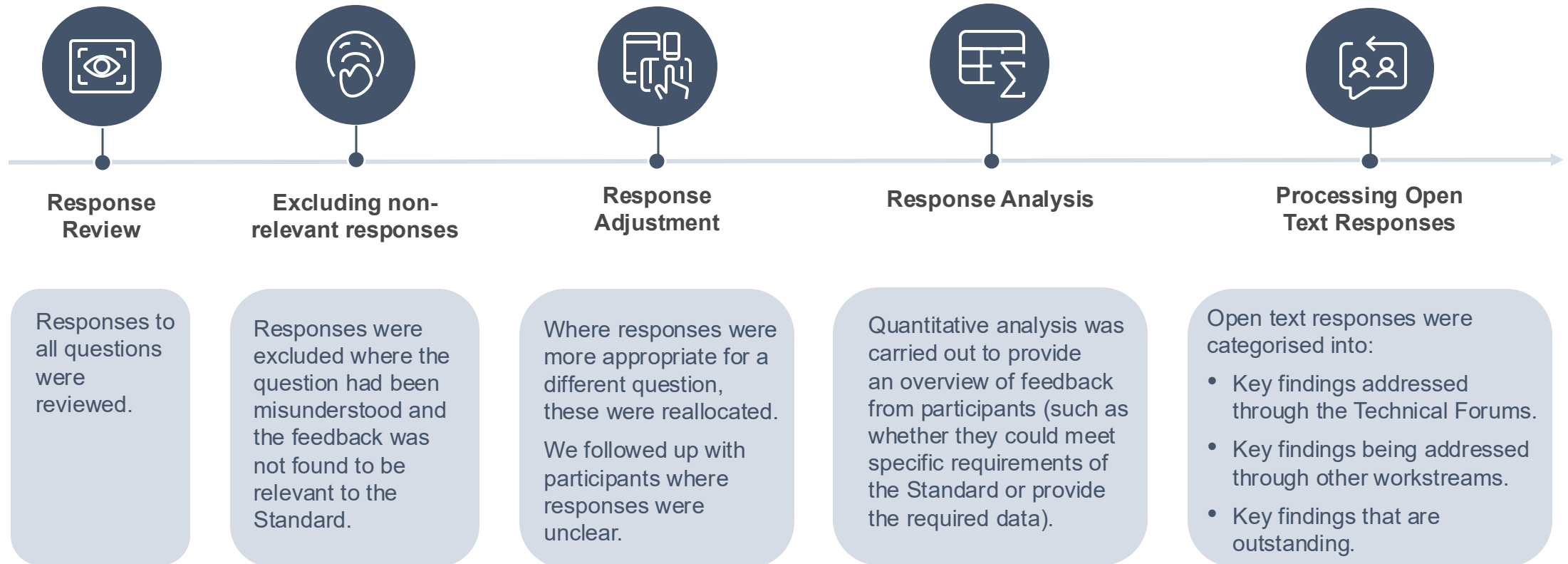
"The intention of submitting this project within the Pilot Testing scheme centred on preparing for, and building resilience in, data collection for in-use operational performance once the building reaches a minimum of 80% occupancy."

Arun Thaneja, Technical Services & Sustainability Director, Winvic

The Surveys – Data Analysis



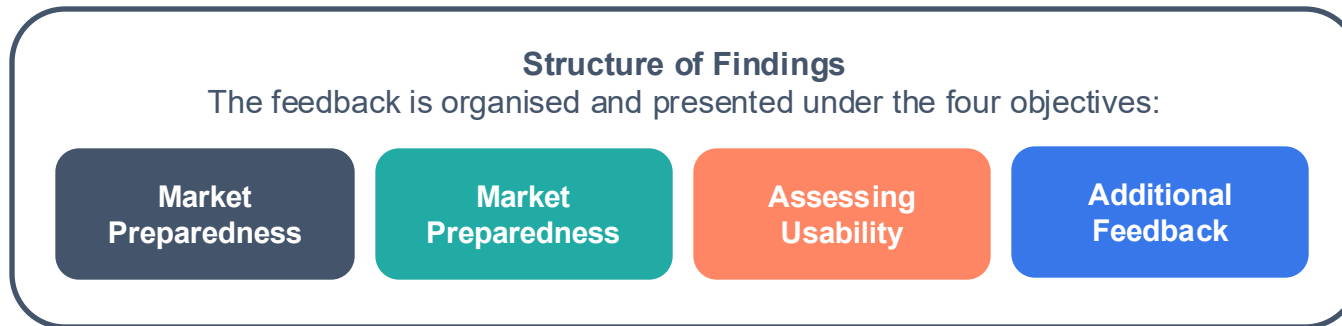
175 responses to a detailed Technical Survey were analysed, using the following process.



Outputs of the Pilot Testing



- All findings from the Pilot Testing have all been recorded in an internal 'Findings Report' being reviewed and processed by the Technical Steering Group (TSG) to inform Version 1 of the Standard. Alongside a detailed overview of the Pilot Testing and the data collection and analysis approach, all feedback has been analysed and presented under the four objectives of the Pilot (see below).



- The following section has been prepared using the same structure to highlight the key findings from each objective in turn and outline how we are responding to these.

“

The Pilot Testing provided a valuable opportunity to understand the practical implications of the Standard, and the industry's engagement with the idea of a common rule book for net zero carbon buildings. It demonstrated that a single performance-based Standard for defining and verifying net zero carbon buildings is both necessary and workable, while also highlighting practical considerations that need further development for adoption at scale. The high level of collaboration, and the willingness of participants to share real project data and experience, reflected both the need for such a Standard and the readiness of the UK real estate industry to support a common methodology and goal. Although not every project met all the requirements, the process showed a strong understanding of credible net zero performance, and a clear view of the support required to embed the approach. The findings indicate a market that is capable, engaged, and ready to work with a consistent framework.

As Version 1 is finalised, the priority is to ensure that the Standard remains clear, practical, and workable for the market. The findings emphasise the importance of high quality data in an evidence-based approach, and the industry's ability to collect and report it in a robust and timely manner. They also point to the need for cost effective adoption at scale, clear delineation of responsibilities, and the use of checkpoints at practical completion to communicate performance and demonstrate progress toward net zero. Addressing these factors positions the Standard to provide a trusted basis for assessing progress across the built environment.

Amrita Dasgupta Shekhar
Pilot Testing Technical Manager, UKNZCBS
Head of ESG and Net Zero, Greengage Environmental Ltd

”



2. Key Findings from the Pilot Testing

Key headlines from the Pilot Testing and how we are responding.



UK Net Zero Carbon
Buildings Standard

Section Summary



This section goes through each objective in turn, outlining the key findings and recommendations from the Pilot Testing and how we are responding. For a reminder of the objectives, please refer back to p.7.

We have used tables to summarise the findings. Please be aware that these are summaries of the most pertinent points. All feedback, even if not included in this summary, has been reviewed and considered by the Technical Steering Group, including specific amendments to wording etc. which are being incorporated.

	What we heard	How we are responding
2.1 Assessing Usability – The Proforma	The proforma should be simplified and made more user-friendly, with functions such as linked sections and pre-populated fields (e.g. as seen in the GLA Energy Reporting spreadsheet).	We will explore which fields can be auto-populated. We will provide more guidance on using the proforma, both in the file itself, and via a complete example.
	Proforma requires additional information, not included in the Standard document.	We are undertaking a review to confirm which optional fields need to be retained (and made mandatory) and which ones can be removed.
	Entering data is entirely a manual process, but users would like to see some integration/alignment with the output format of WLCA tools.	We will liaise with major tools (e.g. OneClick LCA and eTool) to develop dedicated output formats once Version 1 is launched.
	A summary sheet is needed to show whether targets are being achieved.	There is already a summary tab in the proforma, but we acknowledge that this is complex as it shows all potential requirements and reporting only metrics. We will consider developing a simplified, colour coded summary sheet that checks only the pass/fail requirements.
	Guidance is needed on how to submit metered data where this is available but not in half-hourly format, since this option is not currently included in the proforma.	This is an optional requirement if half-hourly metered data is available and this is clarified in the proforma.
	Participants have identified errors in the Proforma, particularly for mixed-use building reporting.	A review is being undertaken to identify any outstanding issues.

Within the “market preparedness” section, you’ll see more detailed information on the feedback received, supplemented by additional information in the Appendix.

Pilot Testing: Headline Requests & Comments



The below graphic summarises the headline requests and comments received under each Pilot Testing aim.

1

Assessing Usability: Headline Requests



Clarity of writing & easy read guide (incl. worked examples, flowcharts).



Online knowledge base and video tutorials.



Digital format.



Project limits and targets tool.



Clarification on existing buildings.

2

Evaluating Clarity: Headline Requests



Delineation



Verification process and costs



Information on how the limits were defined



Equivalence with other schemes



Validation at Practical Completion

3

Market Preparedness: Key Topics



Achievability of limits



Calculating pass/fail metrics



Submission requirements



Reporting metrics

4

Gathering Feedback: The Standard's Co-benefits



Credibility and investor confidence



Consistent science-based definition



Improved asset performance



Stronger collaboration

2.1 Assessing Useability



Assessing Usability: The Standard

2.1 Assessing Usability – General Feedback

What we heard	How we are responding
The writing style uses complex language with a reliance on acronyms.	Whilst the Standard will remain a technical document, we have commissioned a review to identify how we can improve readability and are actively implementing the proposed changes, including reducing acronyms.
Suggestions for an easy read guide.	We have produced a flowchart on applying the Standard which will be published alongside Version 1. Founding organisations are developing simple guidance on specific aspects of the Standard.
Suggestion to convert the Standard into a digital format to improve ease of navigation between sections.	Wherever the PDF references a different clause, that clause is hyperlinked. We will explore transition to a web-based format following the publication of Version 1 but will not be in a position to do this before then.
Need for a tool to select the appropriate project limits and targets.	We are committed to developing in-house tools to support implementation of the Standard, including a tool to select the applicable limit. In the meantime, Orms have developed an Excel tool to simplify area-weighted limit calculations for both Upfront Embodied Carbon and Energy Use Intensity. The tool covers mixed use buildings and those with new build and retrofit portions. This tool can be accessed here .
Creation of online knowledge base to host clarifications, FAQs etc.	FAQs are currently hosted on our website. These cover definitions, the process of developing the Standard and interaction with other initiatives. We are developing our technical FAQs in response to industry feedback. These will be hosted on our website in the first instance. The development of a dedicated knowledge base will be considered as part of the verification development.
Splitting document into sections e.g. new and existing or by sector.	We have reviewed and discussed this feedback, and the consensus is that this would be impractical due to overlapping requirements and the complexity of maintaining multiple documents. The Standard will remain as a self-contained document that covers all cases, enabling different users to access different parts of the Standard.
Clarity on applying the Standard to existing buildings.	The Standard can be applied to existing buildings that are not having any retrofit works. We will be reviewing the text within The Standard to provide clarity.

Assessing Usability: The Proforma



2.1 Assessing Usability – The Proforma

What we heard	How we are responding
The proforma should be simplified and made more user-friendly, with functions such as linked sections and pre-populated fields.	We will explore which fields can be auto-populated. We will provide more guidance on using the proforma, both in the file itself, and via a complete example.
Proforma requires additional information, not included in the Standard document.	We are undertaking a review to confirm which optional fields need to be retained (and made mandatory) and which ones can be removed.
Entering data is entirely a manual process, but users would like to see some integration/alignment with the output/format of WLCA tools.	We will liaise with major tools (e.g. OneClick LCA and eTool) to develop dedicated output formats once Version 1 is launched.
A summary sheet is needed to show whether targets are being achieved.	There is already a summary tab in the proforma, but we acknowledge that this is complex as it shows all pass/fail requirements and reporting only metrics. We will consider developing a simplified, colour coded summary sheet that checks only the pass/fail requirements.
Guidance is needed on how to submit metered data where this is available but not in half-hourly format, since this option is not currently included in the proforma.	This is an optional requirement if half-hourly metered data is available and this is clarified in the Standard and proforma.
Participants have identified errors in the Proforma, particularly for mixed-use building reporting.	A review is being undertaken to identify any outstanding issues.

2.2 Evaluating Clarity



Evaluating Clarity: Information Requests



2.2 Evaluating Clarity

What we heard	How we are responding
Guidance is needed on Delineation.	The Delineation requirements have been drafted for the Office sector and are going through the approvals process ahead of launch of Version 1. We are hopeful that many of the feedback items raised on the Standard will be resolved through Delineation.
Detail on the verification process and costs is required.	Full information on how to verify will be provided alongside the launch of Version 1. In the meantime, please refer to our previous Pre-Launch Update and keep an eye out for further information on our website .
Background is needed on how the limits were set.	Documentation on how the limits were set has been published on our website. See ' How the UKNZCBS Limits Were Set ' and our new Limit Setting Mini Webinar .
Detail is required on equivalence with other Standards.	We are working on an Annex on how other Standards, including NABERS, will be 'deemed to satisfy' certain aspects of The Standard. Discussions with the Passivhaus Trust and BREEAM are ongoing.
A methodology is needed to validate performance at Practical Completion.	In response to industry feedback and following a vote within our Technical Steering Group and at Governance Board, we will be launching an interim validation check at Practical Completion. Our dedicated working group have developed the technical requirements for this, which are going through final review and approval.

2.3 Market Preparedness



Market Preparedness: Achievability of Limits



- As part of the Market Preparedness objective, we sought feedback from participants on the achievability of limits.

A summary of feedback on the limits, split by sector, is provided in the Appendix to this update.

- In response to this feedback and wider data received, limits are being reviewed across all sectors, with particular attention to those where less supportive responses were received on the achievability of limits.
- This review is being carried out with attention to consistency across sectors, and consistency between New Build and Existing/Retrofit limits.
- The final limits in Version 1 will then be set by updating the UK stock model, to remain within a 1.5°C trajectory for the UK built environment as a whole.
- In addition to this, we sought feedback on project readiness and data accessibility; results and next steps are summarised here.

Market Preparedness: Embodied Carbon



What we heard	How we are responding
Challenges with collection of as-built data by Contractor.	We do not currently propose to make any changes to the requirements here. We already have flexibility on this within the Standard, with a hierarchy of data, where as-built data provided by the Contractor comes first, but with other options following this.
Gathering as-built data retrospectively.	
Granularity of data required and available data sources.	
EPD availability, particularly in relation to on-site renewable generation.	
Difficulty in gathering tenants' data.	The delineated approach allows building owners to maintain certification in the event that tenants are not willing to share data. Full building certification still requires reporting of all Reportable Works.
Difficult in separating data between Cat A and Cat B.	No changes proposed at this time (please note that this is only relevant to the Office sector).

Market Preparedness: Operational Energy



What we heard	How we are responding
Impact of tenants on energy consumption in-use.	Our Delineation working group have developed a route to conformity for landlords and tenants separately in certain sectors. We are also launching an interim validation check at Practical Completion. Both routes will allow landlords/owners/developers to demonstrate performance separate from tenant loads.
Accounting for intensity of use.	The call for evidence and development of the Standard highlighted that this may be beneficial in some sectors, but insufficient data was available to set limits accounting for intensity of use. 'Additional Use Areas' can be applied in certain sectors, which in effect adjust the EUI approach. Furthermore, information is required to be reported, which may inform a future approach taking account of intensity of use. In the office sector, we are exploring a route for NABERS UK rated buildings to be deemed to satisfy the energy use requirements of the Standard (these ratings do take intensity of use into account).
Delayed commencement on site impacting achievability of limits.	The Standard provides long range visibility of performance limits and targets for all sectors and performance limits are set once construction begins on site. We will review this section subject to further feedback.
Concerns about inclusion of some process loads e.g. threshold of 20 MW under the UK ETS is high and leaves a significant gap for manufacturing facilities below the threshold	We will review the potential to exclude more industrial processes under Version 1, rather than just those covered by the UK Emissions Trading Scheme (ETS).
Inability to avoid fossil fuels in certain applications within manufacturing facilities.	We will review the potential to exclude more (special applications) fossil fuel uses under Version 1. Evidence requirements will be confirmed by the Verification Administrator.

Market Preparedness: Operational Energy



What we heard	How we are responding
Constraints associated with heritage buildings.	All existing buildings have constraints, and this is recognised in the Standard in its approach to energy use limits. Furthermore, our Heritage Working Group are developing guidance on the process of applying the Standard to heritage buildings. It is intended that Version 1 will point to this guidance but not require it to be followed.
Clarity requested on calculating occupancy rates.	Guidance is provided in Section 5.2.4.1. We will review this section subject to further feedback.
Clarity requested on calculating carbon emissions.	The Standard provides guidance on the specific calculations required for claims of conformity.
Metering concerns, including challenges in collecting operational energy data from tenants, particularly in the 'Homes' sector.	In housing, energy data for verification can be provided on a whole site basis, rather than for each individual home. Furthermore, we are exploring a route for landlords and tenants to separately comply in the domestic sector.

On-Site Renewables: Permissible Reduction to Targets

We have produced the following explanatory graphic in response to requests for clarity in this area

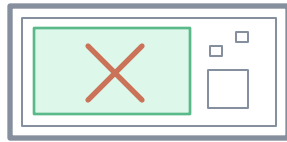


A reduced renewable generation target is permissible due to the following constraints:



Planning/ Legal Constraints

e.g. listed buildings/ conservation areas, overlooking, visibility, flight paths.



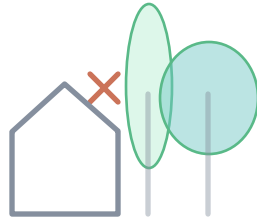
Roof plan

Available Space

e.g. small impractical installation, competition for roof space from amenity/plant etc.

Existing Plant Areas

Existing Rooflights



Overshadowed Roof

e.g. trees, buildings, self shading, poor orientation.



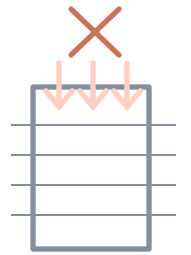
Grid Connectivity Constraints

e.g. limited access to electrical grid, or grid capacity issues in the local area.



Access

e.g. installation and maintenance



Structural capacity

e.g. building's ability to bear the structural load

If constraints restrict generation capacity to less than 1 kWp on single-family homes and 4 kWp on all other buildings, the renewable electricity target shall not apply.

Market Preparedness: Operational Water



2.3 Market Preparedness – Water

What we heard	How we are responding
Issues related to calculating the occupancy of the building for determining L/p/day metric.	As noted in the Technical Forums, this metric can be based on predicted occupancy. This will be further clarified in Version 1 of the Standard.
Requirements for buildings with private supplies and challenges measuring the carbon impact of these.	Further clarification will be provided in Version 1.
Data collection related to rainwater harvesting.	We will provide clarification in Version 1 that collection of data on rainwater harvesting is not required.
Suggested alternative reporting metric (m ³).	This alternative reporting metric is already captured in the Proforma. No further changes are proposed.

Market Preparedness: Refrigerants

3.3 Market Preparedness – Refrigerants

What we heard	How we are responding
R32 figure needs to be updated for GWP.	Clarified in Version 1 that the GWP limit will track R32.
Allowances or adjustments be considered for the GWP limit to account for limitations linked to refrigerant flammability, physical or technical constraints.	Allowances for physical and technical constraints are being considered for Version 1.
Clarifications for calculations for carbon equivalent and leakage rate.	We are not intending to provide worked examples for these calculations at this stage.
Concerns regarding collection and reporting of leakage data.	Most of the comments related to obtaining data rather than measurement. No adjustments or allowances are proposed at this point.
Request for further guidance or a reporting proforma on providing a systems description.	Evidence needs to demonstrate compliance with GWP limits and annual leakage in accordance with the methodology specified in the Standard. The system type is captured in the proforma. We do not propose to provide further guidance at this stage.
Clarifications related to the evidence requirements including related to service records and inspection reports, confirmation that all in-scope refrigerants meet the limits.	Evidence requirements will be clarified as part of the verification methodology.
Requirements for existing systems to meet the GWP limit.	<p>We are considering extending the exemptions for existing systems beyond those stated in the Pilot Version:</p> <p><i>Where RPEP occurs before 1st January 2030 and systems were installed before the release of the Standard and no work on the refrigeration system has been carried out since the release of the Standard.</i></p>

2.4 Gathering Feedback



Gathering Feedback



The final objective sought to gather participant feedback on the potential co-benefits of applying the Standard.

1 Credibility and Investor Confidence

25% highlighted the potential impact the Standard could have in improving tenant and **investor confidence**, strengthening **credibility** and ultimately providing tangible financial advantages.

2 Consistent Definition

Participants noted that the Standard provides a **consistent definition** of net zero for the industry to work towards, with a **transparent** process to verification the next step in improving **integrity** of claims made in the industry.

3 Improved Asset Performance

The Standard assesses performance in-use, allowing asset performance to be **monitored** and tracked. Several participants noted that the Standard will foster better design decisions from the outset, improving **building performance, longevity and adaptability**.

4 Stronger Collaboration

Participants commented that application of the Standard would lead to stronger collaboration, as designing and building assets to meet the requirements will require cross-discipline **integration** and **collaboration**.

3. Key Updates within Version 1



UK Net Zero Carbon
Buildings Standard

New Sections of the Standard



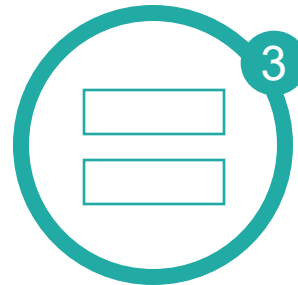
Thanks to the brilliant work of our Technical Steering Group and volunteers across a number of working groups, the following new aspects of the Standard will be published as part of Version 1.



Version 1 of the Standard, incorporating key updates



Delineation – New Annex



Deeming to Satisfy (formerly 'Equivalence') – New Annex



Verification – Updated Section



'On Track' at Practical Completion – New Annex

For further information, see our November Pre-Launch Update, available on our [website](#).

New Supporting Information



A number of supporting documents and resources are being developed alongside the Standard.

Guidance for Existing and Heritage Buildings

- This guidance is intended to support a range of stakeholders working on decarbonisation of existing and heritage buildings. Starting with an explanation of the role of existing and heritage buildings in a Net Zero Carbon UK, this guidance contains flow charts that take stakeholders through a process of evaluating the decarbonisation potential of the building.

Legal Guidance

- A Legal Working Group for the Standard is producing initial guidance for lawyers on how the Standard applies to key real estate transaction types. It is planned for publication alongside the launch of Version 1.

Graphics and Explanatory Videos

- In response to feedback received, we have commissioned a series of graphics on complex areas of the Standard (Reporting Periods, Mixed Use Buildings, On Site Renewables etc.) We will be recording explanatory videos to go alongside these graphics and publishing them on our website.

4. What's Next

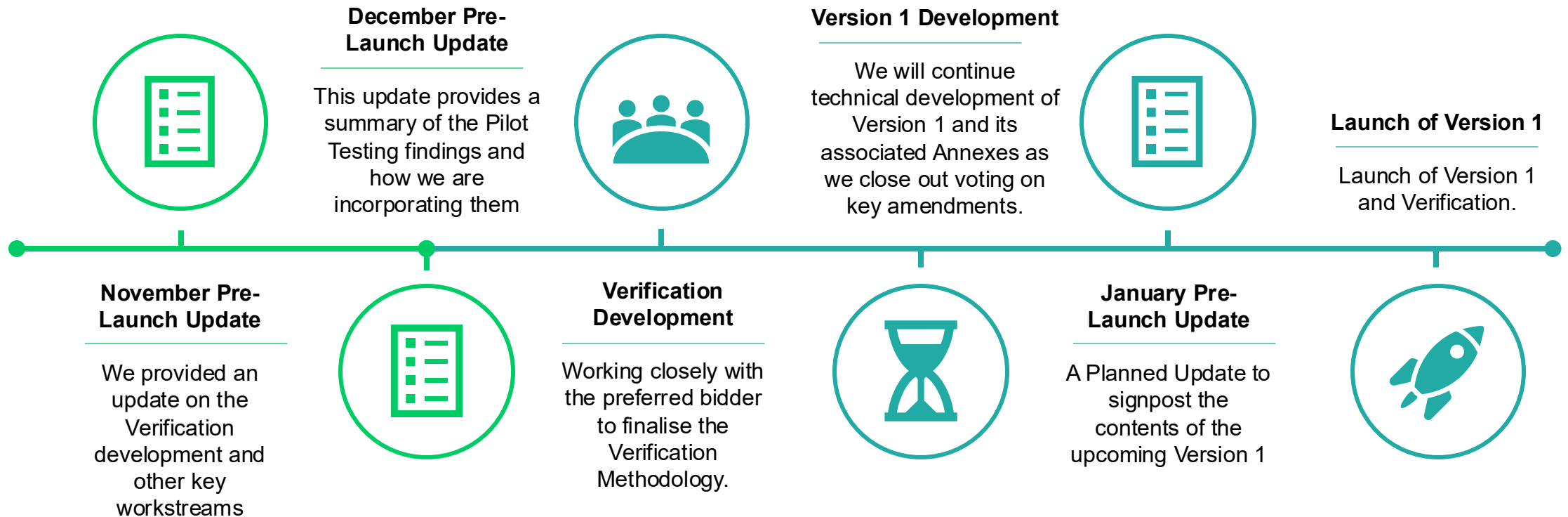


UK Net Zero Carbon
Buildings Standard

Next Steps



Late 2025 to Early 2026 →



5. Appendix

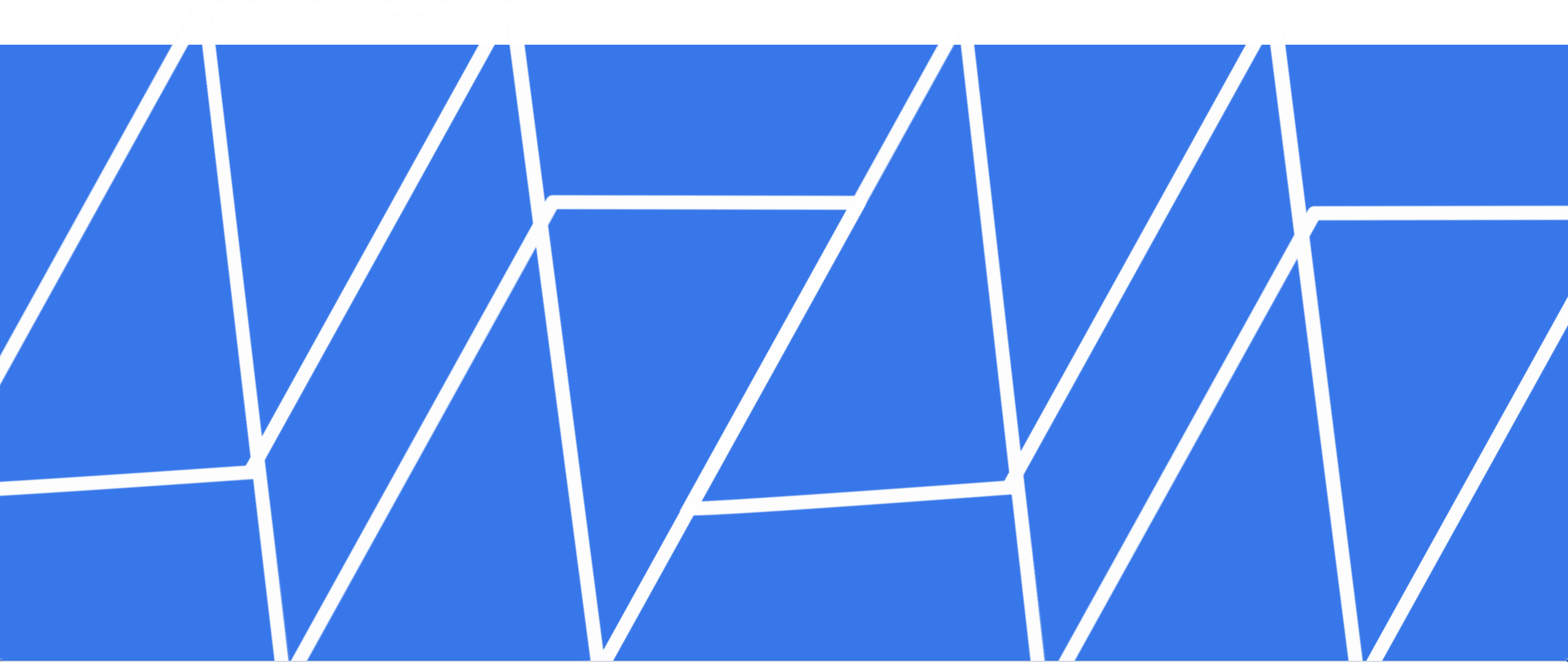
Pilot Testing Feedback on Achievability of Limits & Wider Feedback



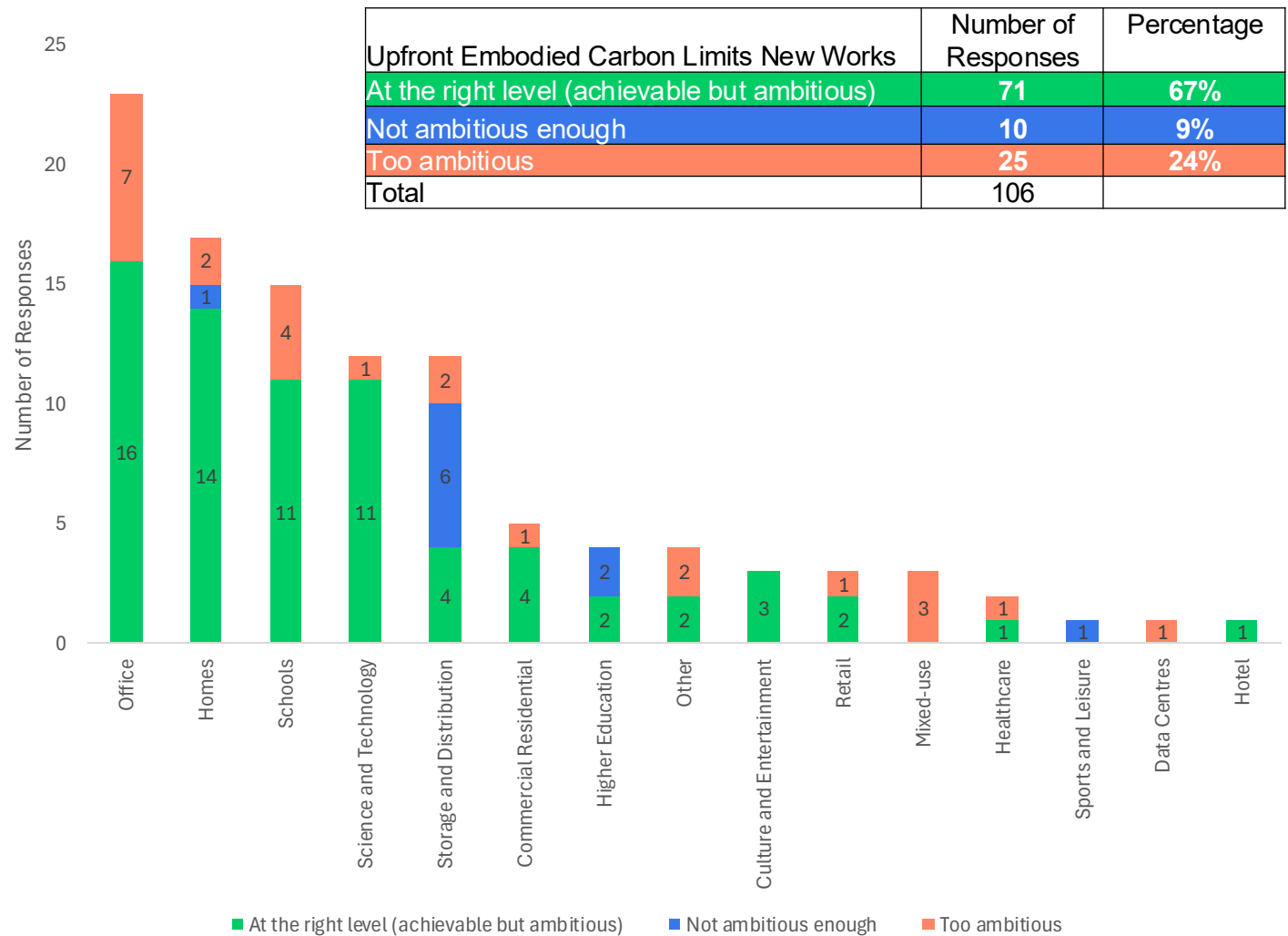
UK Net Zero Carbon
Buildings Standard

Appendix

5.1 Feedback on Embodied Carbon



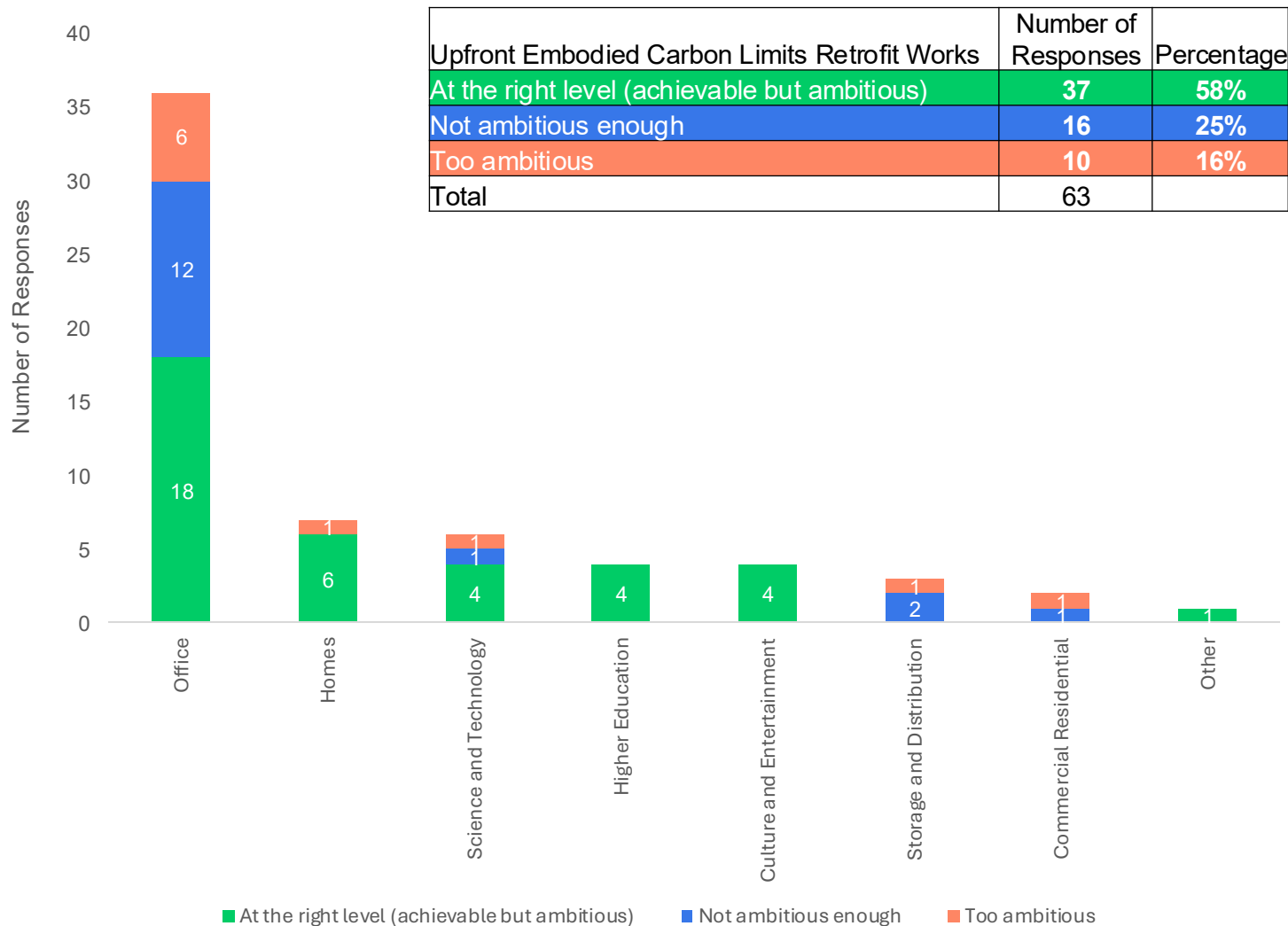
Achievability of Upfront Embodied Carbon Limits New Works



Upfront Embodied Carbon Limits New Works	Number of Responses	Percentage
At the right level (achievable but ambitious)	71	67%
Not ambitious enough	10	9%
Too ambitious	25	24%
Total	106	

Note: Responses from 2 participants who noted that the requirements set by DfE create challenges in achieving this have been excluded.

Achievability of Upfront Embodied Carbon Limits **Retrofit Works**



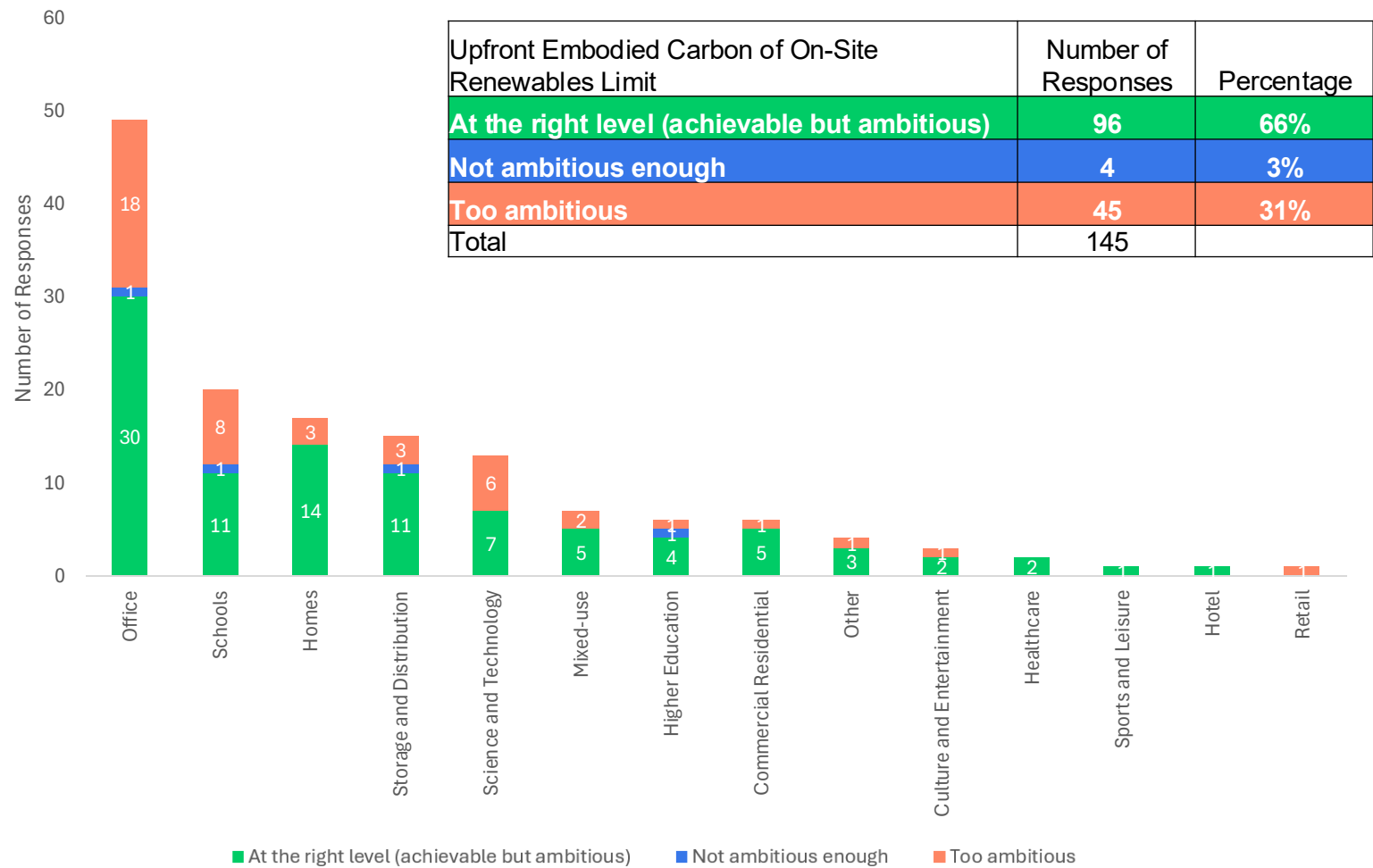
Upfront Embodied Carbon Limits Retrofit Works	Number of Responses	Percentage
At the right level (achievable but ambitious)	37	58%
Not ambitious enough	16	25%
Too ambitious	10	16%
Total	63	

Achievability of Upfront Embodied Carbon Limits **Reportable Works**



Note: At this time, upfront embodied carbon limits for reportable works only apply to offices, and so we are assuming that projects in other sectors that have responded to this question have areas of their buildings classified as Office.

Achievability of Upfront Embodied Carbon of On-Site Renewables Limit



Note: Responses relating to constraints on providing PV on roofs have been excluded from the chart and analysis, as this question referred to the upfront limit for renewables rather than the renewable electricity generation target.

Wider Feedback on Embodied Carbon



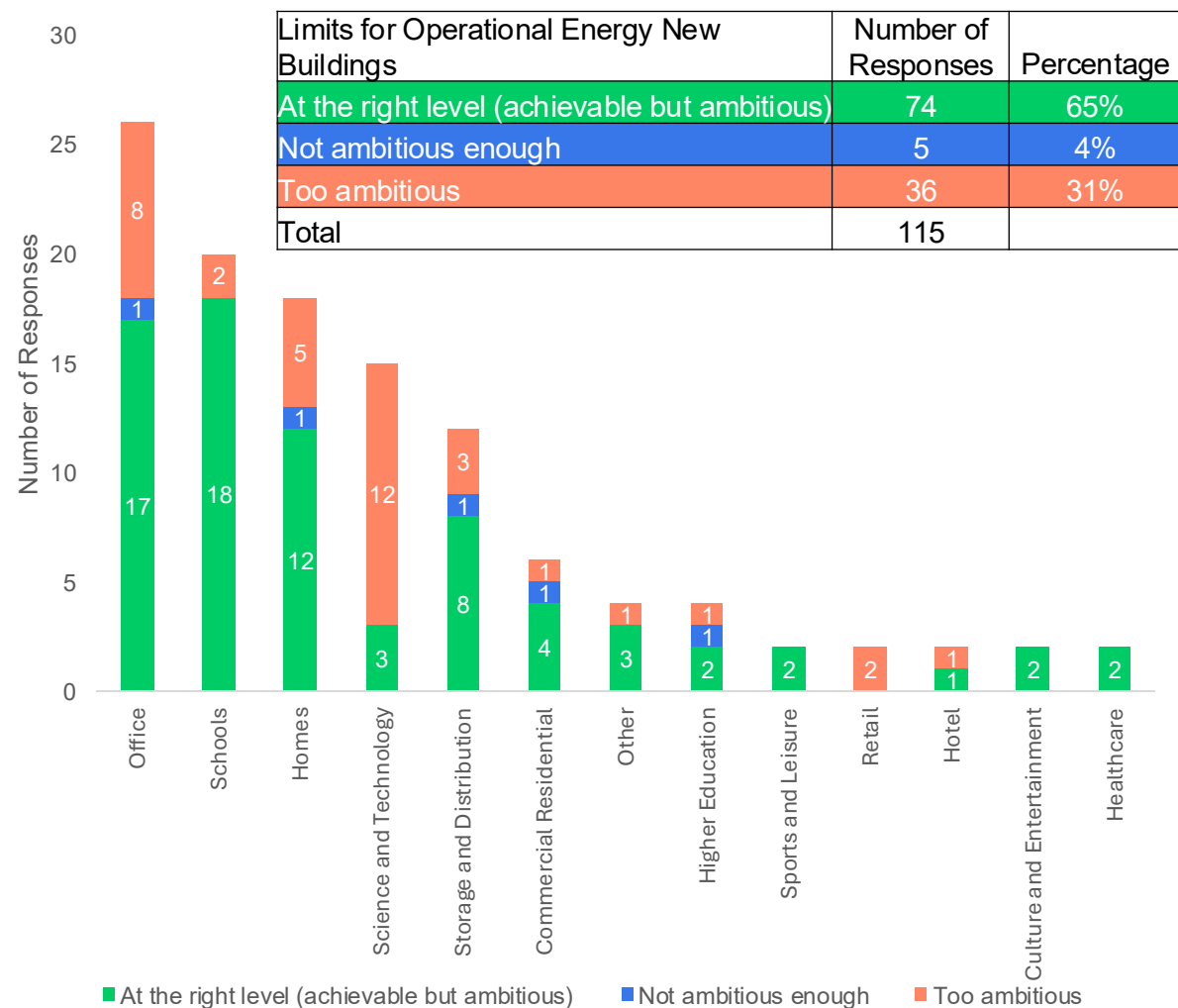
Questions	Yes	Percentage	No	Percentage	Total
If the building has multiple tenants, would you be able to conduct separate embodied carbon assessments for Reportable works (as outlined 5.1.2.3 of the Standard) for each tenant?	13	27%	35	73%	48
For the Office sector, would you be able to break down the data to allow checking against both the 'Whole building' limit, and separately the 'Shell and core' limit?	33	52%	30	48%	63
Would you be able to gather and submit all the relevant material quantities in accordance with the requirements of Section 5.1.4.1 and 5.1.5.8 of the Standard? (The preference is material quantities from as-built cost records, but other sources may be used if unavailable)	89	61%	58	39%	147
Given that the ERP extends to 5 years in the past, would you be able to assess embodied carbon (on as-built data) for all works (excluding non-reportable) completed in this period?	68	61%	43	39%	111
Would you be able to provide the additional breakdowns of embodied carbon figures required by The Standard in particular cases, if applicable, as per Section 5.1.3 and 5.1.4?	59	74%	21	26%	80
For the assessment based on generic material specifications required in 5.1.2.6 of the Standard, would you be able to access the data required to calculate emissions using the documents referenced in 'How to Calculate Embodied Carbon'?	110	79%	29	21%	139
Would you be able to get the information needed to assess and report embodied carbon of on-site renewables, separately from the rest of the building, as per Section 5.1.6.3?	111	84%	21	16%	132

Appendix

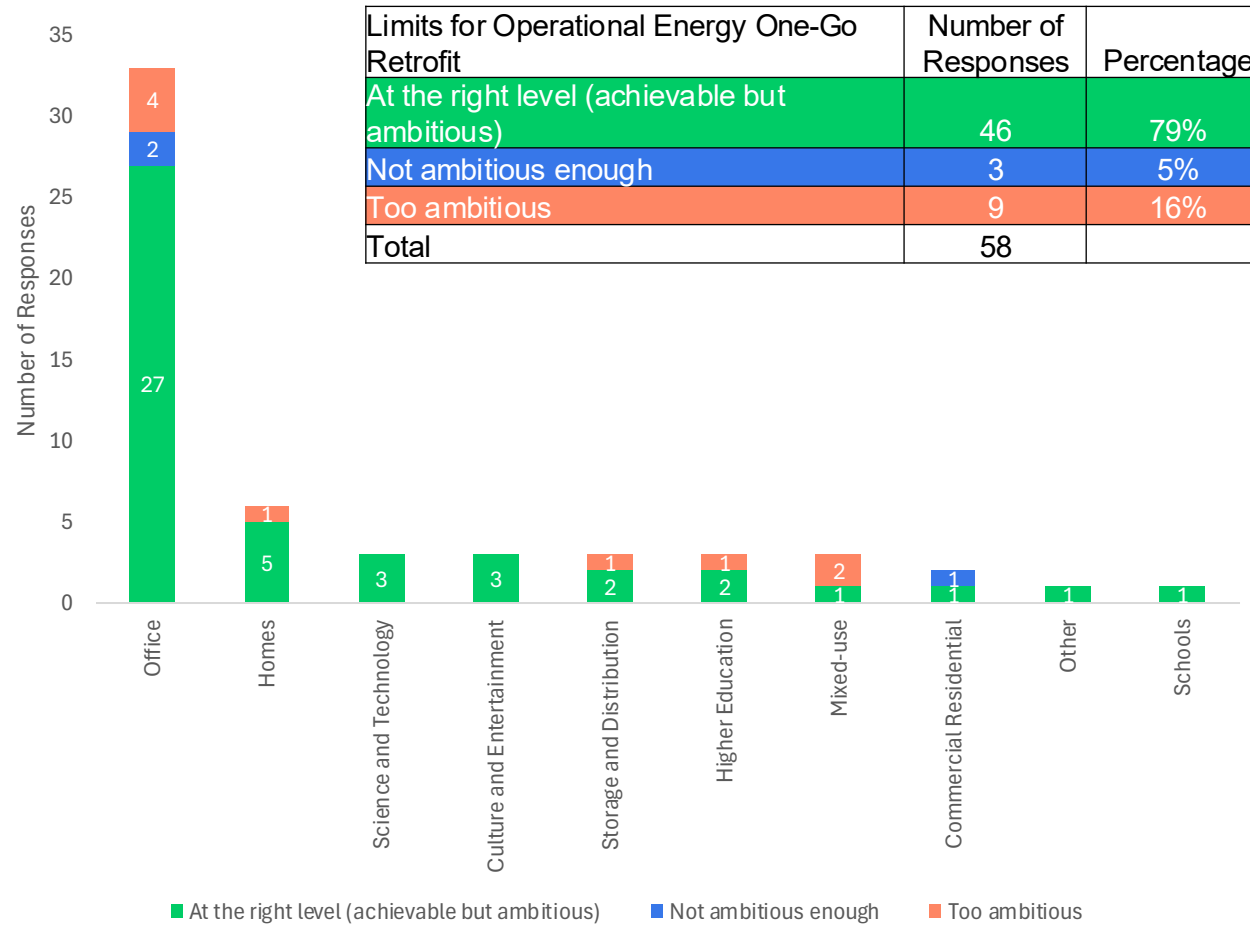
5.2 Feedback on Operational Energy



Achievability of Limits for Operational Energy **New Buildings**



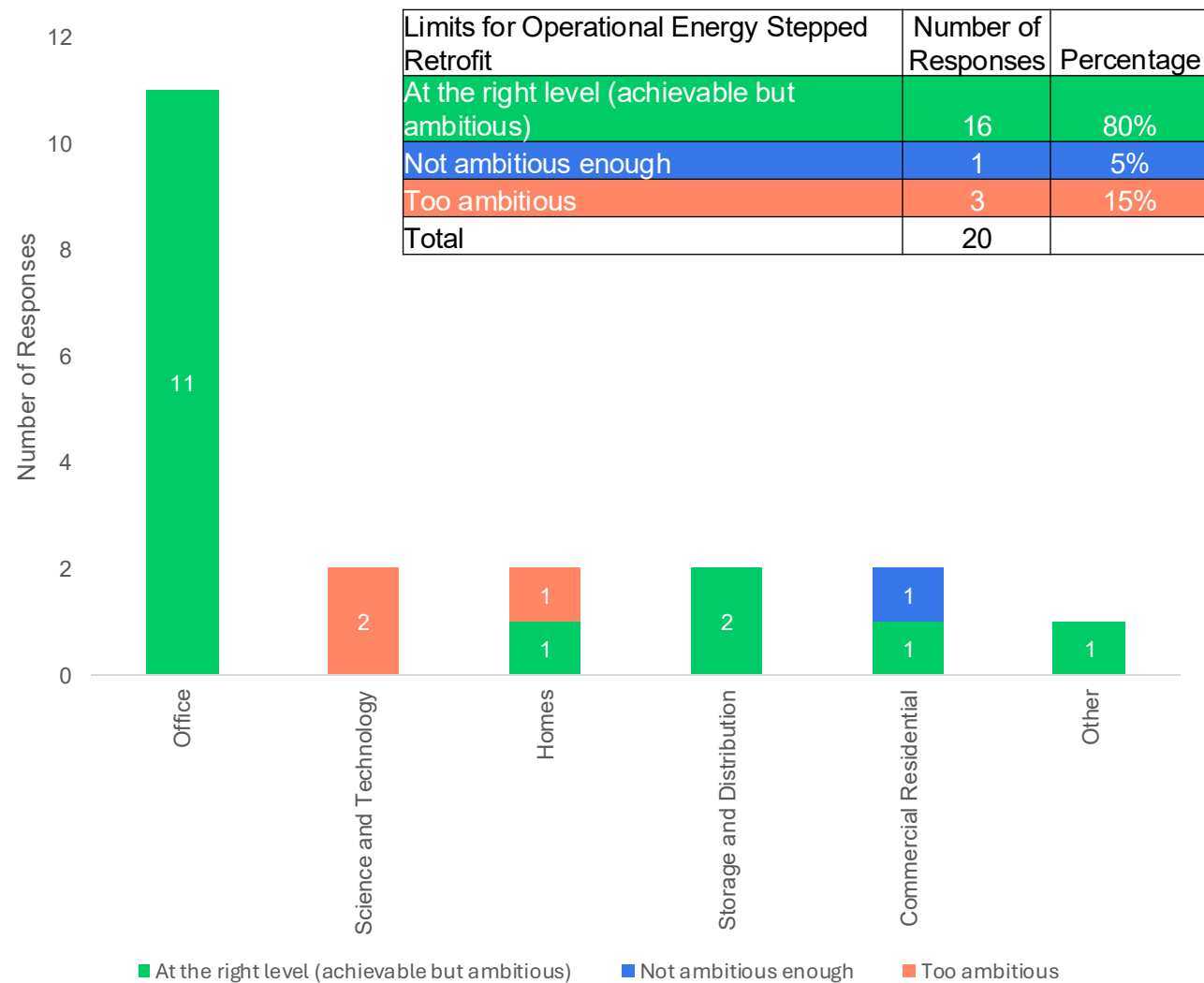
Achievability of Limits for Operational Energy One-Go Retrofit



Limits for Operational Energy One-Go Retrofit	Number of Responses	Percentage
At the right level (achievable but ambitious)	46	79%
Not ambitious enough	3	5%
Too ambitious	9	16%
Total	58	

Note: Responses from 3 participants who cited uncertainty due to early stage and partial occupancy, have been excluded.

Achievability of Limits for Operational Energy **Stepped Retrofit**



Wider Feedback on Operational Energy



Would you be able to ascertain the following Pass/ Fail metrics that are applicable to your project, as per Section 5.2.2?	Yes	Percentage	No	Percentage	Total
For all subsectors of Retail: Energy Use Intensity(EUI) per m ² GIA per year [kWh/m ² GIA/year]	14	93%	1	7%	15
All Sectors: Energy Use Intensity (EUI) per m ² GIA per year [kWh/m ² GIA/year]	154	99%	1	1%	155
Data Centres only: Power Usage Effectiveness, annualised (PUE)	3	100%	0	0%	3
For Healthcare only: Energy Use Intensity (EUI) per m ² GIA per year [kWh/m ² GIA/year] in accordance with the NHS Net Zero Building Standard, including clauses relating to Domestic Hot Water and unregulated loads (advisory in NHS NZBS but mandatory in the Standard, see section 5.2.6.1)	4	100%	0	0%	4
For Hotels only: Energy use intensity (EUI) per m ² GIA per year [kWh/m ² GIA/year]	4	100%	0	0%	4
For Offices only: Either Energy use intensity (EUI) per m ² NIA [kWh/m ² NIA/year] or Energy use intensity (EUI) per m ² GIA [kWh/m ² GIA/year]	69	97%	2	3%	71
Additional requirement for Commercial Centres/Shopping Centres only: Energy use per m ² landlord area [kWh/m ² CPA/year]	5	100%	0	0%	5

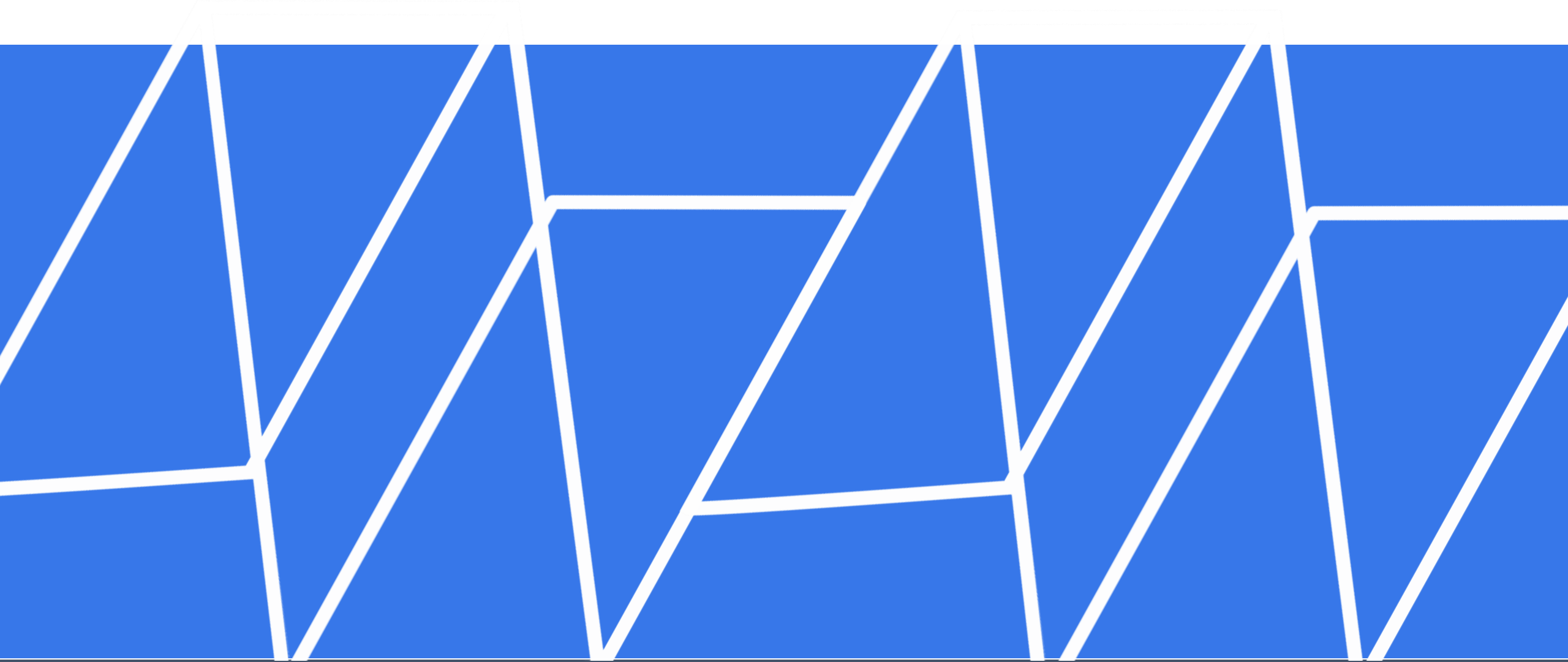
Wider Feedback on Operational Energy



Are there any submission requirements (listed in 5.2.5) that are hard to evidence? Please also refer to the 'Submission Proforma' for information regarding the evidence that will need to be submitted to the verifier.	Yes	Percentage	No	Percentage	Total
Where relevant, a Retrofit Plan (see Section 5.2.7)	15	31%	34	69%	49
If heavy process loads are excluded, details on how the associated carbon emissions are already managed by regulation	7	23%	24	77%	31
Data used for, and calculation of, the occupancy rate. This should include the floor area measurements of the building, the total occupiable area, the separately occupied spaces and unoccupiable areas, details on how the separately occupied space criteria are met, and the number of occupants (see Section 5.2.4.1)	27	20%	111	80%	138
Where AUAs have been identified in accordance with section 5.2.1.3, details must be submitted separately for energy use, carbon emissions, NIA and GIA, clearly detailing these for both the AUAs and the remainder of the building, with no double-counting	13	19%	54	81%	67
Details of areas assigned different sectors in accordance with Section 5.2.6 and Table 12, or classified as Additional Use Areas (AUAs, see section 3.1.4.11) in accordance with Section 5.2.1.3 and Table 9	12	17%	59	83%	71
Submission demonstrating that energy use intensity limits have been met shall net out all energy and areas associated with AUAs	13	16%	67	84%	80
Meter readings and other energy use measurement data (see Section 5.1.4)	17	13%	117	87%	134
Total energy use excluded from the assessment (see Section 5.2.1)	14	12%	101	88%	115
Energy use total and per fuel type breakdowns, expressed according to the relevant unit(s) (see Section 5.2.2)	16	11%	129	89%	145
Relevant electrical schematic drawings	15	11%	124	89%	139
Carbon emissions resulting from operational energy usage, including carbon emission factors used (see Section 5.2.3.2)	11	8%	131	92%	142
A statement confirming how annual operational energy has been measured and reported	10	7%	131	93%	141

Appendix

5.3 Feedback on Operational Water



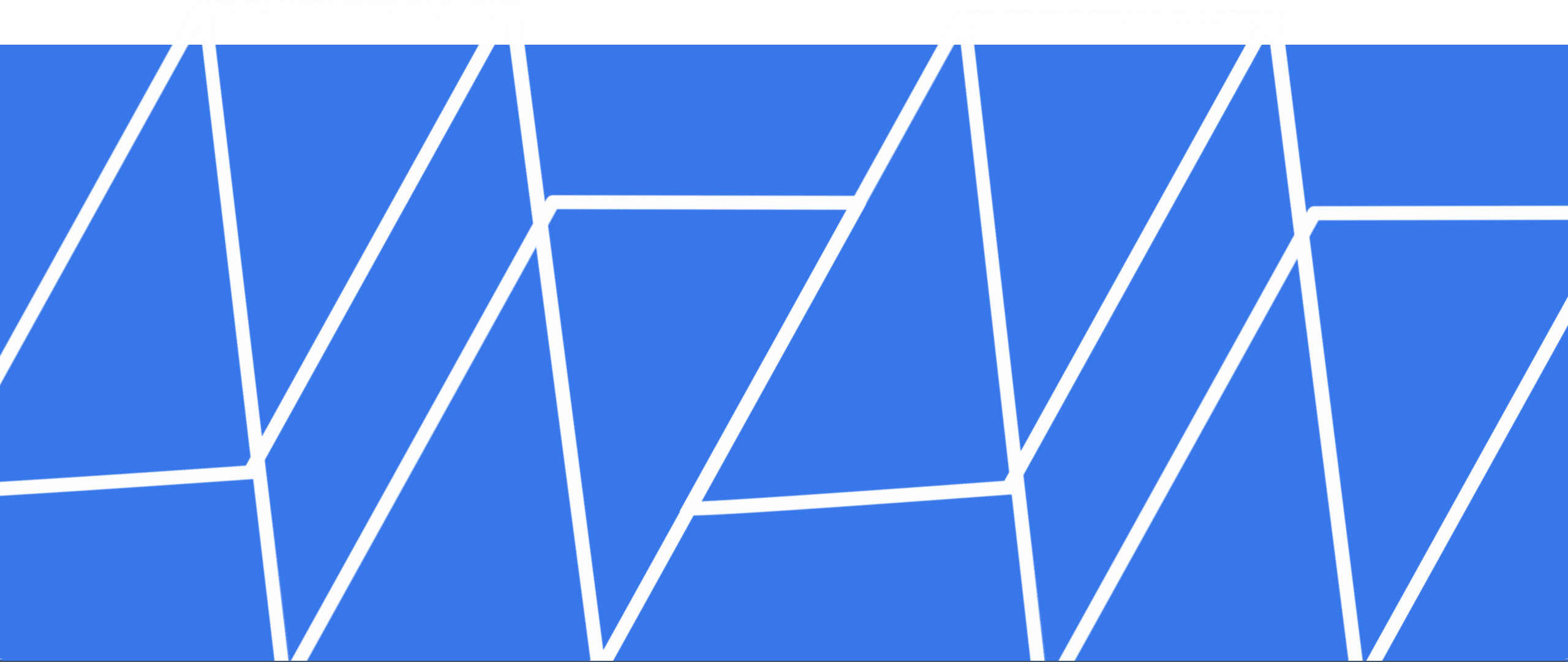
Feedback on Operational Water



Question	Yes	Percentage	No	Percentage	Total
Would you be able to gather all data required to report performance for the reporting metrics as per Section 5.4.2?	116	81%	28	19%	144
Are there any submission requirements (listed in 5.4.5) that are hard to evidence?					
Carbon emission factors used (see Section 5.4.3)	20	14%	127	86%	147
Meter readings and other water use measurement data (see Section 5.4.2.1)	33	23%	110	77%	143
Water use total and per source type breakdowns, expressed according to the relevant unit(s) (see section 5.4.2), excluding water used for processes excluded from the assessment (see Section 5.4.1)	42	29%	103	71%	145

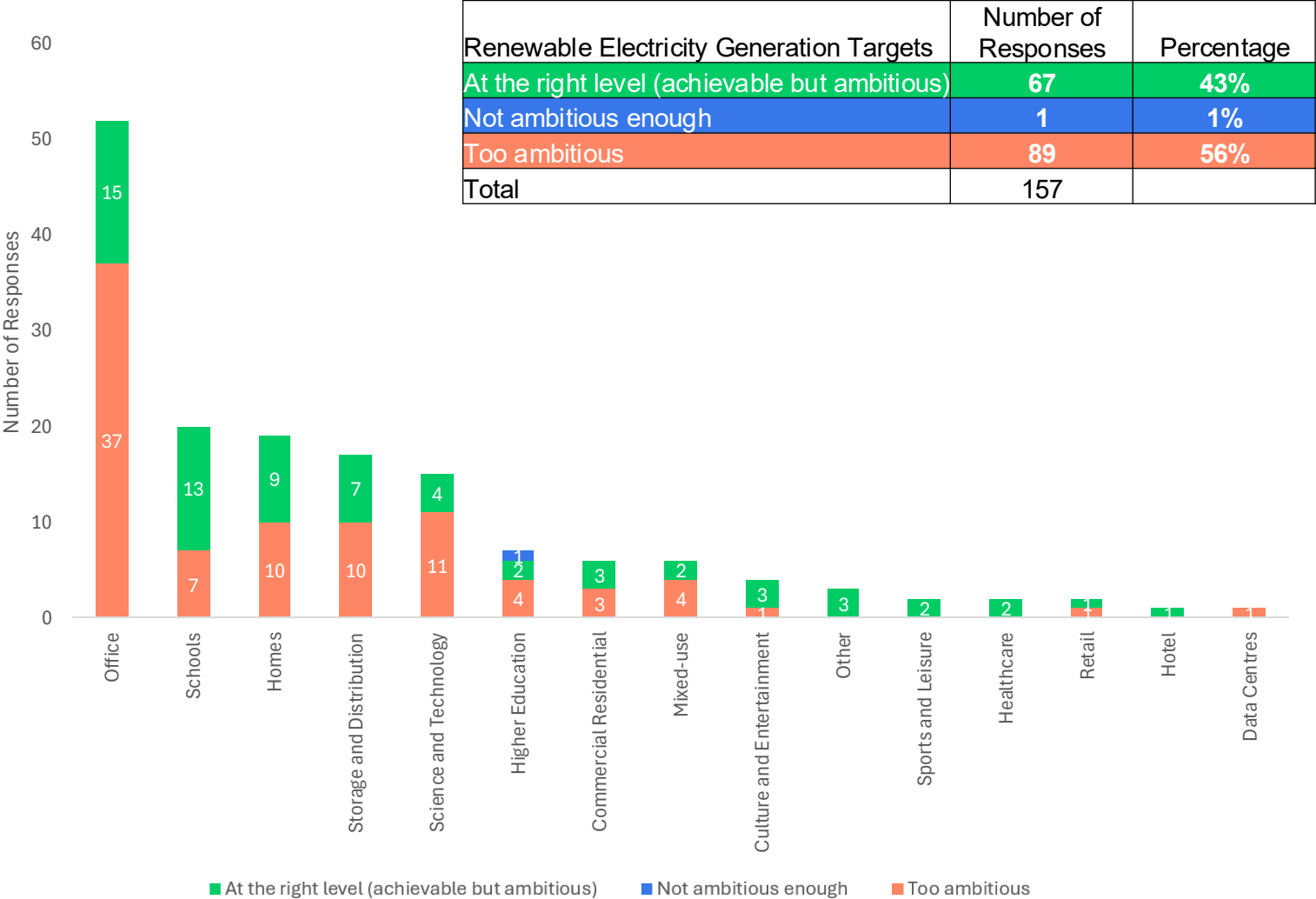
Appendix

5.4 Feedback on Renewable Generation



Achievability of Renewable Electricity Generation Targets

See p.33 for clarification on this topic.



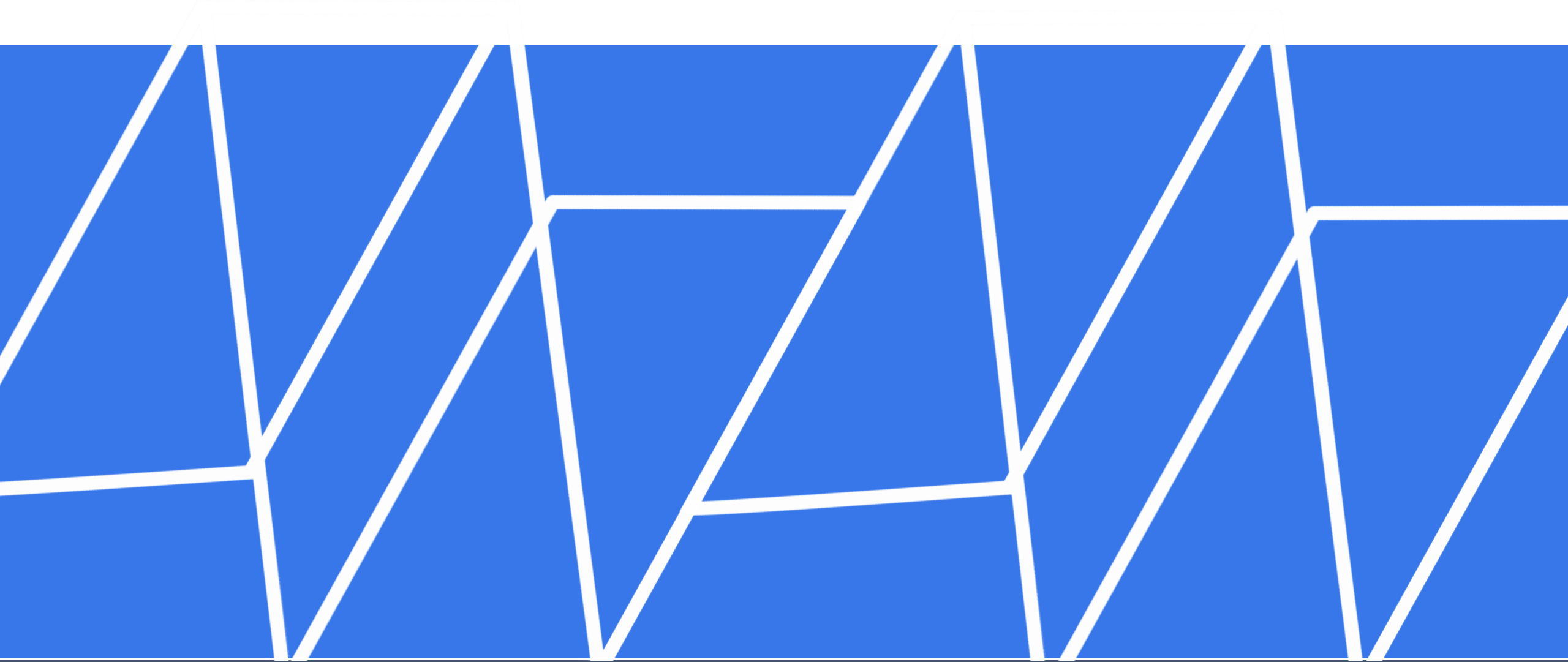
Wider Feedback on On-Site Renewables



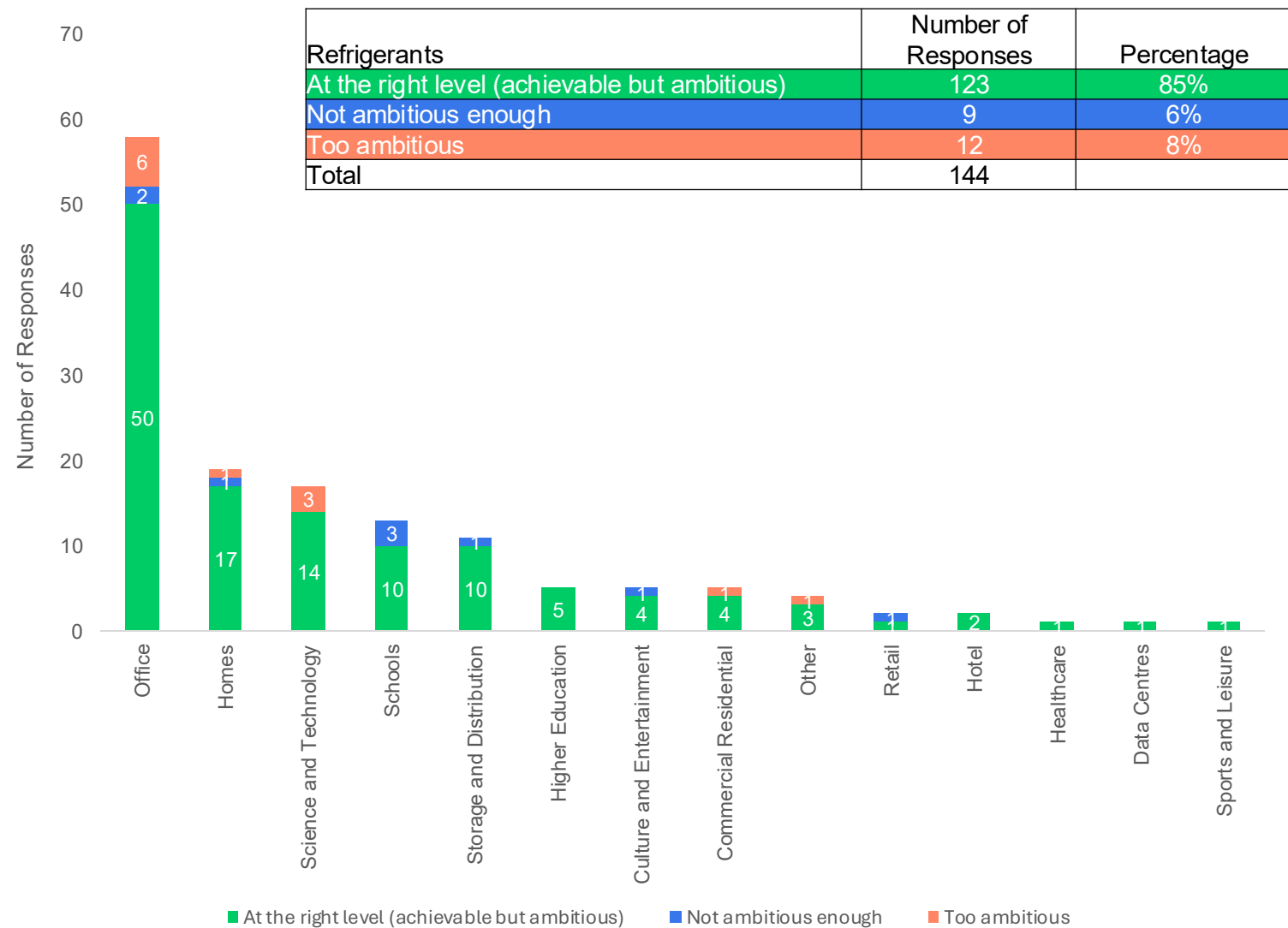
Pass/ Fail Metrics	Yes	Percentage	No	Percentage	Total
Would you be able to gather the data required to calculate the pass/fail metric, which is 'annual on-site renewable electricity generation per m ² building footprint area' [kWh/m ² building footprint/year]?	81	98%	2	2%	83
Would you be able to gather all data required for the reporting metrics as per Section 5.3.2?					
Annual on-site renewable electricity generation that is used on site [kWh/year]	62	90%	7	10%	69
Annual on-site renewable electricity generation that is exported [kWh/year]	58	92%	5	8%	63
On-site renewable electricity generation capacity [kWp/m ² building footprint]	70	100%	0	0%	70
Total annual on-site renewable electricity generation [kWh/year]	69	100%	0	0%	69
Are there any submission requirements (listed in Section 5.3.4) that are hard to evidence?					
On-site renewable electricity generation capacity (see Section 5.3.2)	6	5%	127	95%	133
A statement confirming how the annual renewable electricity generation has been measured and reported	9	7%	122	93%	131
Details of constraints affecting on-site renewable electricity generation	14	10%	120	90%	134
On-site renewable electricity generation used on site: Total expressed according to the relevant unit(s) (see Section 5.3.2)	14	11%	118	89%	132
Details justifying the reduction of the on-site renewable electricity generation target if applicable (see Section 5.3.5.1)	18	16%	96	84%	114
On-site renewable electricity generation exported: Total expressed according to the relevant unit(s) (see Section 5.3.2)	18	16%	94	84%	112

Appendix

5.5 Feedback on Refrigerants



Achievability of Limits for Refrigerants



Wider Feedback on Refrigerants



Question	Yes	Percentage	No	Percentage	Total
For buildings that are in-use, would you be able to gather all data required to calculate the pass/fail metrics as per Table 19, i.e., GWP limit of refrigerants [kgCO ₂ e/kg]?	108	94%	7	6%	115
For in-use buildings where in-scope systems within the building collectively contain refrigerant with a carbon equivalent of 3,000 kg CO ₂ e or more, would you be able to gather all data required for the reporting metrics listed in Table 19?					
Optional Reporting Metric: Annual carbon impact of refrigerant gases [kgCO ₂ e/year] (non-Kyoto products only)	45	83%	9	17%	54
Annual carbon impact of refrigerant gases [kgCO ₂ e/year] (Kyoto products only)	52	88%	7	12%	59

Wider Feedback on Refrigerants



Are there any submission requirements (listed in Section 5.9.5) that are hard to evidence?	Yes	Percentage	No	Percentage	Total
Refrigerant leakage and carbon emission total and per refrigerant type breakdowns, expressed according to the relevant unit(s) (see Section 5.9.2).	31	25%	93	75%	124
Data used for and calculation of refrigerant leakage quantities and carbon emissions (see Section 5.9.3).	29	23%	95	77%	124
Inspection reports, servicing records or similar documentation for each in-scope system, including any details of refrigerant and leakage or recharge quantities during the assessed period.	27	23%	93	78%	120
A written statement confirming all in-scope refrigerants meet the limit (see Section 5.9.6).	10	8%	114	92%	124
Installation date of each in-scope system. Or, if the installation date is not known, the installation date may be estimated.	8	7%	114	93%	122
Calculations used to determine the carbon equivalent of refrigerants contained in all in scope refrigeration systems in the building.	8	6%	120	94%	128
Description of each in-scope system including the type of system, associated refrigerant equipment, number of refrigeration units, refrigerant and refrigerant charge [kg].	6	5%	121	95%	127
Carbon emission factors used (see Section 5.9.3).	5	4%	119	96%	124