

Gatwick Airport Northern Runway Project

Construction Carbon Management Strategy

Book 10

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1 Executive Summary

- 1.1.1 Gatwick is committed to a low carbon future. Gatwick's reporting methodology and carbon management strategy toward absolute GHG emissions reduction are in accordance with Airport Carbon Accreditation Level 4+. Gatwick understands the need to implement further carbon management processes in the delivery of its capital investment projects and has committed to becoming PAS 2080:2023 certified.
- 1.1.2 Carbon management measures already exist within the project assurance and gateway process. These are being strengthened to consistently deliver low carbon solutions and to fully align to the PAS 2080 framework.
- 1.1.3 As part of its commitment, Gatwick intends to deliver the construction of the Northern Runway Project (NRP) in compliance with the construction carbon budget figure committed to under the Carbon Action Plan (APP-091) and will manage the work packages to achieve this. It will therefore set clear expectations to the NRP supply chain to lead them on the carbon management journey and deliver a low carbon outcome for the NRP. These expectations will be clearly communicated during the procurement process and form part of the contractual requirements.
- 1.1.4 Accurate and consistent quantification of carbon is important and will be necessary to assure works. Priority, however, will remain on carbon reduction action which is driven through leadership and collaboration across the supply chain and the opportunity and performance management on the NRP.
- 1.1.5 By following PAS 2080 and comprehensively implementing its principles, Gatwick is driving carbon reduction and is confident that the NRP will be delivered in compliance with the committed carbon budget.
- 1.1.6 This Strategy sets out Gatwick's plan to deliver on these commitments and to ensure that all construction and supply chain partners are fully aware of the commitments and that they will be expected to play their full part.



2 Introduction

2.1 Background

- 2.1.1 The Northern Runway Project (NRP) proposes to make alterations to the northern runway which would enable dual runway operations in accordance with international standards.
- 2.1.2 The Development Consent Order (DCO), including the Environmental Statement, for the NRP was submitted on 6th July 2023. The Environmental Statement considered mitigations regarding carbon management including a Carbon Action Plan (APP-091), which made the following commitments related to construction carbon emissions:
 - Gatwick will develop and implement measures to prevent, reduce and remediate GHG emissions arising from the construction of the Northern Runway Project to ensure that these do not exceed 1.15 MtCO₂e.
 - Gatwick, as the asset owner, and the Principal Contractors used for construction of the NRP will be PAS2080:2023 Carbon management in buildings and infrastructure (as amended) certified, updated annually.

2.2 Purpose of this document

2.2.1 This document sets out Gatwick's strategic approach to deliver a low carbon NRP, in accordance with the committed carbon budget. In doing so, it describes carbon management measures that have been implemented to date and Gatwick's plan to implement a carbon management process, certified to PAS 2080:2023, for the whole construction lifecycle of the NRP. This document should be read in conjunction with the submitted Carbon Action Plan (CAP).

2.3 PAS 2080: 2023 Carbon management in buildings and infrastructure

- 2.3.1 PAS 2080 is the world's first publicly available specification for managing whole-life carbon in infrastructure, published in 2016 (Ref 6.1.1) with the purpose of providing a framework which promotes carbon reduction in projects, in support of industry and governmental calls for a net zero future.
- 2.3.2 PAS 2080:2016 set out a structured approach to carbon management that requires leadership, collaboration, consistent carbon accounting and a clear path by which carbon is incorporated into the decision-making process on infrastructure projects. Amended in 2023 (Ref 6.1.2), the specification was expanded to consider the wider built environment and set clear roles and



- responsibilities across the value chain (Ref 6.1.3). The process is set out across seven clauses (Clause 5-11), as indicated in Figure 1 below.
- 2.3.3 Gatwick are pursuing PAS 2080:2023 certification independent of NRP. Gatwick have commenced incorporating key requirements, where necessary, into its Construction governance process in preparation for external verification and certification. This commitment, and the work underway, aligns Gatwick with other major infrastructure clients such as National Highways and Highspeed 2 (HS2).

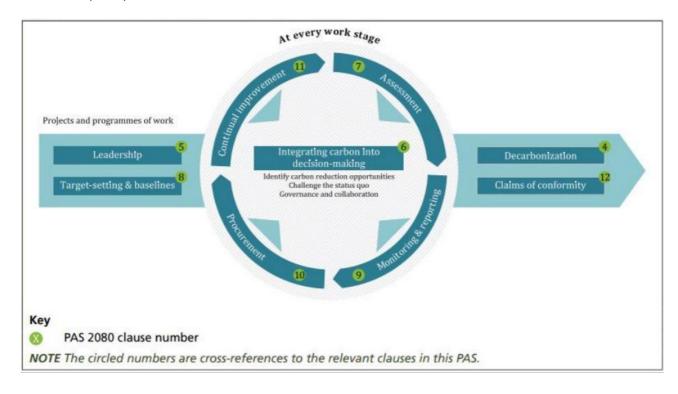


Figure 1 The PAS 2080 carbon management process as shown in Figure 6 of PAS 2080:2023 Carbon Management in Buildings and Infrastructure



3 Construction Carbon Management

The strategy detailed below is structured to align with the key components of the PAS 2080:2023 carbon management process as shown in Figure 1 and therefore the same headings are used for consistency.

3.1 Leadership (PAS 2080:2023 Clause 5)

- 3.1.1 As shown in Figure 1-1 of the submitted CAP, Gatwick published its first Decade of Change policy in 2010 and has been actively reducing its carbon emissions ever since. Gatwick was awarded Level 3+ of the Airport Carbon Accreditation and has been carbon neutral since 2017 (Ref 6.1.4) (covering Scope 1 and 2 GHG emissions). In 2023 Gatwick accelerated its goal to achieve Net Zero GHG emissions (scope 1 and 2) from 2040 to 2030 (Ref 6.1.5).
- 3.1.2 Gatwick's reporting methodology and carbon management strategy toward absolute GHG emissions reduction are in accordance with Airport Carbon Accreditation Level 4+ (awarded in 2023). Gatwick understands the need to implement further carbon management processes in the delivery of its capital investment projects and is pursuing PAS 2080:2023 certification.
- 3.1.3 To support this ambition, the Construction team at Gatwick has supplemented its internal expertise through appointing a construction focused Sustainability lead with extensive experience in decarbonising construction on major infrastructure projects in the UK (HS2 and Crossrail). Gatwick is also further supported by subject matter expert consultants who provide advisory services and best practice experience from the construction industry as necessary.
- 3.1.4 A Construction Sustainability Leadership Group has been created to drive a focused carbon reduction roadmap to support the Decade of Change commitments and more. PAS 2080:2023 certification for Gatwick as an asset owner is planned for 2025. Incorporation of key requirements into existing governance processes is ongoing through the guidance and support of the relevant process owners including procurement, commercial, design and construction management.
- 3.1.5 Training and awareness represent a key part of Gatwick's leadership as a client; hence tailored training for all key relevant roles is in development. A review of existing industry training and support is also underway to understand how Gatwick can better guide the supply chain on this journey.



3.1.6 Gatwick will manage the packages required for NRP construction to the committed carbon budget. Gatwick will set clear expectations to the NRP supply chain to lead them on the carbon management journey and deliver the low carbon outcome. These expectations will be clearly communicated during the procurement process and form part of the contractual requirements. They are laid out at a strategic level in the sections that follow.

3.2 Target setting and baselines (PAS 2080:2023 Clause 8)

- 3.2.1 In line with PAS 2080, Gatwick, as the asset owner, shall set and own the baselines for the NRP. An initial overarching baseline has been established in readiness for the DCO application, initial outline carbon reduction opportunities reviewed, and a committed carbon budget agreed.
- 3.2.2 As the NRP matures and the procurement/packaging approach is determined, the following process (figure 2) will be followed.

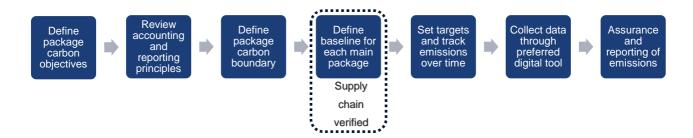


Figure 2 Package carbon baseline and target process

- 3.2.3 Gatwick has reviewed options on how to potentially disaggregate the carbon budget and set targets to the NRP supply chain. This would be finalised when the procurement strategy has been agreed. Based on current understanding, Gatwick envisages disaggregating the budget at Principal Contractor level.
- 3.2.4 As the level of detail improves through the project and design development, it is wholly expected that baselines will be recalculated, verified, and agreed with the Contractors and supply chain this approach is in line with the carbon management process in PAS 2080.
- 3.2.5 Accurate and consistent quantification of carbon is important (as laid out in Section 3.3 below) and will be necessary to assure works are delivered within the carbon budget. Priority, however, will remain on carbon reduction **action** which



will be driven through leadership and collaboration across the supply chain and the opportunity and performance management on the NRP.

3.3 Assessment (PAS 2080:2023 Clause 7)

- 3.3.1 In order to ensure a consistent approach to the quantification of carbon, Gatwick will provide their NRP supply chain with a "carbon brief".
- 3.3.2 The carbon brief will define the carbon assessment methodology to be used for calculation, which will conform to industry standards which are currently set out in BS 15978:2011 for buildings and BS 17472:2022 for infrastructure and will use the RICS "Methodology to calculate embodied carbon".
- 3.3.3 All assessments undertaken will encompass whole life carbon. This means accounting for the carbon impact of the entire lifecycle of the built asset: construction, operation, and end of life emissions. This is to ensure that decisions are driven by a holistic understanding of the impact of that decision not only in terms of capital carbon, but in the long-term operational carbon as well.
- 3.3.4 The frequency of the full assessment reporting from the supply chain for the NRP will be set to ensure regular review and capturing of implemented opportunities, as well as to provide input into the published annual monitoring reports.

3.4 Procurement (PAS 2080:2023 Clause 10)

3.4.1 The supply chain is critical to the success of this strategy. Therefore, the following procurement process (Figure 3), which is in place for current construction projects, will be followed. This will ensure Gatwick engages suppliers who are aligned to its goals and deliver the best solutions for the NRP, in line with the requirements set out here.



Figure 3 Procurement Process



Early Engagement

- 3.4.2 The Gatwick procurement process for frameworks and large-scale projects starts with early market engagement including, as appropriate, supplier engagement events, 121 Business to Business meetings, online webinars, or written project/programme briefs. These engagement activities are held to ensure early communication of Gatwick's Decade of Change and sustainability focus, amongst other requirements, to all potential suppliers to drive appetite and ensure sufficient time for the market to prepare and develop their internal processes and procedures. This approach is best practice for infrastructure programmes including large framework procurements.
- 3.4.3 The carbon management expectations for the NRP will be communicated to the market early. This will be followed by a Market Sounding Questionnaire to ensure critical feedback is gathered from the supply base, to drive collaboration and market knowledge from the market experts, Designers and Contractors alike.

 Designers and Contractors will be informed that carbon management commitments and credentials will be important criterion in the selection process.

Tender Process

- 3.4.4 Gatwick Construction team has adopted the use of PAS 91; a questionnaire developed by the British Standards Institute to drive consistency and efficiency across the supply chain in relation to pre-qualifying capable and competent suppliers to tender. This pre-qualification questionnaire (PQQ) drives contractors to answer a standard set of questions, including pass/fail and scored requirements for suppliers who efficiently drive low carbon outputs (and other sustainable measures).
- 3.4.5 At PQQ stage, PAS 2080 certification or details on the supplier's carbon management processes and commitment will be a requirement to progress as one of the critical pass/fail questions. Designers and contractors without sufficient internal carbon management processes and commitments will not progress to the request for proposal (RFP) stage.
- 3.4.6 A minimum weighting of 10% will be attributed to sustainability outputs within the RFP for contracts related to the NRP.
- 3.4.7 Specific questions relating to the supplier's plans to reduce carbon through their contracts are already being used for key contracts. For the NRP, questions will be framed to test supplier understanding of the carbon reduction potential of the respective package as well as potential opportunities or solutions they could offer, this may be in the form of a draft Climate Change Plan (see 3.4.8 below).



This will not only help ensure the right supply chain is awarded the work, but where appropriate, these solutions can then be written into the package scope or form part of the contractual agreement under Clause X29.

Contract

- 3.4.8 Mechanisms to support innovation and incentivise carbon reductions will be included within the contracts (aligned to PAS 2080) and options around this are currently being explored. Gatwick expects to use **NEC4 Clause X29** for laying out the specific whole life carbon requirements in the contracts for NRP. X29 has three main elements:
 - Climate Change Requirements outlining Gatwick's carbon reduction/climate change requirements as part of a scope of work or services, including PAS 2080:2023 certification, carbon assessment and reporting requirements as well as the carbon budget. Specific requirements around key carbon hotspots e.g. materials such as concrete, steel and asphalt or construction activity related emissions such as those related to plant and vehicles will be included as appropriate to the package of works.
 - Performance Table used to embed specific incentivised targets. Examples include financial incentives per quantum of tonnes achieved below the budget or set carbon milestones. Conversely, penalties for not meeting key carbon related targets, milestones or requirements may also be included.
 - Climate Change Plan requires the Contractor to lay out plans and specific actions or tasks set to manage carbon reduction on the package of work, in order to achieve and, where practical, improve upon the targets set (for example, the disaggregated NRP carbon budget). Once agreed and accepted by the client, this then becomes a contractual document, to drive delivery against tasks and actions as set by the contractor to deliver the overall requirements as set by Gatwick.
- 3.4.9 Gatwick's philosophy is to encourage positive interaction with sustainability performance via incentivisation. If incentivisation alone does not result in the outcomes required, contractual mechanisms such as the early warning process and further escalations, would be used to ensure the contractor delivers on their obligations. More detail on how progress will be monitored and managed is described in section 3.6.
- 3.4.10 To further support delivering the NRP within the construction carbon budget, Gatwick is considering the use of a carbon 'risk pot'. A portion of the carbon budget will be held back to account for change or risk of a package not meeting the scope of works within the carbon budget set for it. This concept is illustrated



with an example in Figure 4 below. Gatwick would retain responsibility for managing the risk to ensure the carbon Budget for the NRP is not exceeded.

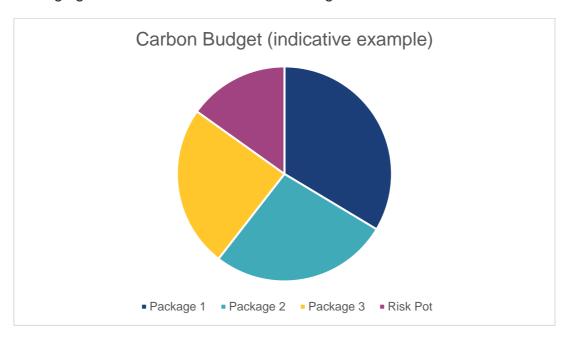


Figure 4 Illustrative example of Carbon Budget disaggregation

3.4.11 If the Contractor demonstrates that significant baseline changes have occurred that warrant a review of the assigned budget for that package, then the risk pot could be drawn upon (if approved by Gatwick). Similarly, the risk pot could also be drawn upon should a Contractor provide suitable evidence of taking all reasonable measures and yet not being able to complete the scope of work within the agreed budget.

Post contract award - Supply chain management

- 3.4.12 A centralised supplier relationship management framework (at a strategic business to business level) and Performance Management Approach (at a tactical project level) will be put in place to drive local target delivery. This will include contractual requirements for monitoring and reporting and the assessment of performance against agreed targets and/or milestones (more details on monitoring and reporting below).
- 3.4.13 All contractors will be required to take part in regular sustainability forums to ensure rapid sharing of information and lessons learnt, facilitating faster adoption of successful carbon reduction opportunities across members of the supply chain. This forum will ensure a drumbeat of centralised two-way feedback directly relating to carbon requirements, any innovation or market risk that may exist, alongside an opportunity to drive improvements at an accelerated pace.



3.5 Integrating Carbon into decision making (PAS 2080:2023 Clause 6)

- 3.5.1 Carbon reduction considerations form part of Gatwick's internal project approval tollgate process. As part of the development of a formal carbon management system and the improvements in line with PAS 2080, these considerations will be strengthened for NRP.
- 3.5.2 It is important that carbon is integrated across all applicable decision making and therefore further requirements are set out here which help ensure the regular and consistent action required to achieve a low carbon outcome.
- 3.5.3 Carbon reduction workshops shall be undertaken at key points in each of the packages with the right attendees to identify opportunities, ensure collaboration between value chain members, and to ignite action at the most appropriate time. Early identification of carbon reduction opportunities will increase the likelihood of implementation.
- 3.5.4 A carbon reduction opportunities register has already been produced and will be maintained through the NRP. The opportunities register will be shared with the supply chain during the procurement process, to enable monitoring and measurement of carbon reduction opportunities throughout the project lifecycle. The register will be used as a tool to drive best practice, to provide the basis for learning and continuous improvement, and ensure that the carbon budget is met.
- 3.5.5 The Carbon Action Plan (refer to section 3.3 of the CAP) includes a range of enabling and direct measures targeting construction emissions that are being considered. As an example, Gatwick is currently considering, amongst others, the following low carbon initiatives (building on measures CN25 and CN26 from the CAP):
 - using higher proportion of cement replacement in concrete mixes;
 - using electric arc furnace steel;
 - investigating the use of asphalt or stone mastic asphalt; and
 - sustainable airfield pavement design.
- 3.5.6 Gatwick will work collaboratively with the supply chain, to deliver outcomes that meet performance needs rather than imposing rigid prescriptive specifications and technical requirements. This is especially important where the prescriptive specifications hamper opportunities for innovation and carbon reduction.



EXAMPLE – In 2021 the main runway was reaching end of design life and resurfacing was needed. The original design solution based on traditional specification required a full depth, full surface replacement. Working collaboratively with our design partner, additional surveys and a review of performance data enabled the design approach to be performance-based on our requirements (rather than traditional prescriptive specification). Setting the right requirements with the designer allowed them to deliver a lean design that met Gatwick's use needs. In this case, reducing the design significantly with 70% less asphalt to the traditional specification of full surface replacement. This needs-based approach has continued, when in 2023 the design of the new Rapid exit taxiway was refined in line with performance and use of the existing rather than standard requirements, allowing reduction in pavement thickness in a section of the RET that is used less frequently. This design optimisation resulted in a 10% saving in capital carbon.

3.5.7 Regular reporting and the use of standing agenda items will ensure that carbon remains regularly discussed and the importance of these requirements are not overlooked (section 3.6 below).

3.6 Monitoring and reporting (PAS 2080:2023 Clause 9)

- 3.6.1 Carbon accounting/assessment requirements will be laid out within the carbon brief as described in Section 3.3 above, and this shall allow for consistent and comparable assessments and subsequent reporting across contractors. A carbon brief has been used on a number of Gatwick construction projects to date and will continue to be developed as the processes are improved through lessons learnt.
- 3.6.2 To further support consistent and comparable reporting, Gatwick will look at suitable reporting mechanisms such as software or a digital tool to allow data sets from the various packages to sit alongside one another for the NRP as a whole. This will ensure Gatwick has the oversight required for effective ownership and management.
- 3.6.3 Monthly reporting templates currently used include RAG status updates on key indicators safety, scope, cost, quality, schedule, and carbon. In line with the



- KPIs set within the NRP contracts discussed above, these will then be reported to management through these mechanisms.
- 3.6.4 Following the review of reported data, key carbon related risks and opportunities will be discussed at the appropriate project management meetings. These risks and opportunities with their associated carbon impacts, should be presented alongside other project management metrics such as cost and programme implications. This will allow timely and informed decision-making, and if necessary, intervention and remedial action to take place.
- 3.6.5 Through regular reporting and discussion in management forums, leadership can drive decision making in line with what is set out in Section 3.1, collaborating, and finding solutions that support the low carbon outcomes required.

EXAMPLE – In 2022 a pier extension project was resumed following a pause during Covid. At this time the opportunity was taken to redesign and take a considered approach for carbon reduction. A capital carbon reduction target of 20% was set in the contract and a carbon brief issued on how carbon and GHG were to be assessed. Full whole life carbon assessments were produced at each key design stage. This provided snapshots in time as opportunities from that design phase were adopted. 'Mini' carbon assessments were also undertaken on key options during those phases to support decision making e.g. base structural materials or heating systems. Regular monitoring and reporting supported collaboration and decision making on the project, and led to incremental carbon savings with the current design predicting approximately 22% savings against the baseline.



3.7 Continual Improvement (PAS 2080:2023 Clause 11)

- 3.7.1 Continual Improvement is a key part of Gatwick's existing quality management system including regular review, lessons learnt and resulting process improvements. To accelerate the learning for new processes, Gatwick is applying lessons learnt from major infrastructure projects such as HS2 and other client entities like National Highways and the Environment Agency.
- 3.7.2 As mentioned in Section 3.4.13 above, regular supply chain forums will also ensure that continual improvement is identified swiftly and shared across contractors.

4 Conclusion

4.1.1 Gatwick will manage the NRP packages and supply chain to achieve the committed construction carbon budget. Carbon management processes are currently in place and are being strengthened and aligned to PAS 2080:2023. Through the implementation of this strategy, Gatwick is confident that a low carbon outcome for the NRP will be achieved in keeping with the commitments made.



5 Glossary

Key Term	Definition
Baseline	Scenario for what carbon emissions and removals would have been in the absence of planned measures aiming to reduce emissions
Capital Carbon	GHG emissions and removals associated with the creation and end- of-life treatment of an asset, network or system, and optionally with its maintenance and refurbishment. Also referred to as 'embodied carbon' and 'upfront carbon' – PAS 2080 uses this selected terminology to allow comparison/alignment with similar terminology in cost management.
Carbon Action Plan	Submitted with the DCO application for the Northern Runway Project, the Carbon Action Plan provides the outcomes that Gatwick will commit to and measures by which it may achieve them.
Carbon Brief	A Carbon brief is a scope or requirements documents produced to detail the specific requirements related to the carbon assessment sought on a particular project. It lays out the standards and specifications required to be followed.
Carbon Budget	Refers to the committed maximum carbon emissions related to the Construction of the Northern Runway Project as detailed in the Carbon Action Plan
Carbon Neutral	Offset of all residual carbon emissions under Scope 1, Scope 2 and staff business travel.
Clause X29	Clause X29 Climate Change is a secondary option Clause that has been developed for use in NEC4 contracts. The Option enables clients to state their climate change requirements in the scope and provides a new climate change plan for contractors to set out their strategy for achieving the requirements. It also includes a performance table to enable financial incentives to achieve stated targets.
Greenhouse Gas emissions	Total mass of Greenhouse Gases (main seven being Carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF ₆) and



Key Term	Definition
	nitrogen trifluoride (NF ₃) released to the atmosphere over a specified period of time.
Level 3+ Airport	Certified Carbon Neutrality for direct emissions by offsetting issued
Carbon	by the Airport Carbon accreditation. Achieving Level 3+ means you
Accreditation	have also met the requirements of the previous levels - Mapping
	carbon footprint (level 1), having carbon management procedures to
	reduce these (level 2) and engaging and including scope 3 in the
	footprint (level 3).
Net Zero	Reduce absolute emissions to the greatest extent possible and
	address any remaining emissions through investment in carbon removal and storage.
Operational	Greenhouse gas emissions and removals associated with the
Carbon	operation of an asset, network and/or system required to enable it to
	operate and deliver its service
Project Approval	Project Approval and Governance process sets out the process by
Tollgate Process	which projects are managed through 7 tollgates from concept
	development and optioneering through, design development, scope
	fix, delivery readiness, delivery, handover and project close out. It
	has defined deliverables, milestones and various approval bodies
	depending on scale and complexity of the project.
Scope 1	Direct GHG emissions that occur from sources that are owned and/or controlled by the airport.
Scope 2	Indirect GHG emissions from the generation of purchased electricity,
	steam, heat or cooling consumed by the airport. Scope 2 emissions
	physically occur at the facility where purchased electricity is generated.
Scope 3	All other indirect emissions, which are a consequence of the activities
	of the airport but occur from sources not owned and/or controlled by
	the company (e.g., aircraft movements, vehicles and equipment
	operated by third parties, off-site waste management, etc.)



Abbreviation	Definition
ACA	Airport Carbon Accreditation
BSI	British Standards Institute
CAP	Carbon Action Plan
DCO	Development Consent Order
GHG	Greenhouse Gas
HS2	HighSpeed 2
NEC4	New Engineering Contract version 4
NRP	Northern Runway Project
PAS	Publicly Available Specification
PQQ	Pre-Qualifying Questionnaire
RAG	Red, Amber Green
RFP	Request for Proposal



6 References

- 6.1.1 British Standards Institution (2016) PAS 2080: 2016 Carbon Management in Infrastructure.
- 6.1.2 British Standards Institution (2023) PAS 2080: 2023 Carbon Management in Buildings and Infrastructure.
- 6.1.3 Construction Leadership Council & The Green Construction Board
 (2023) Guidance document for PAS 2080

 https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2019/06/Guidance-Document-for-PAS2080 vFinal.pdf
- 6.1.4 Airport Carbon Accreditation (2024) Application Manual Issue 14. Available at: https://www.airportcarbonaccreditation.org/wp-content/uploads/2023/12/ACA-AM-14-FINAL-UPDATE1.pdf
- 6.1.5 Gatwick Airport Ltd (2023) Our Second Decade of Change to 2030.

 Available at: https://www.gatwickairport.com/on/demandware.static/-/Sites-Gatwick-Library/default/dw10c8906f/images/Corporate-PDFs/Sustainability/Second_Decade_of_change_policy_to_2030.pdf
- 6.1.6 British Standards Institution (2011) BS EN 15978:2011 Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method.
- 6.1.7 British Standards Institution (2022) BS EN 17472:2022 Sustainability of construction works. Sustainability assessment of civil engineering works. Calculation methods.
- 6.1.8 British Standards Institution (2017) PAS 91: 2013+A1:2017 Construction prequalification questionnaires