

Port of London Control Centre, Gravesend

Planning Design and Access Statement
November 2022



**BENNETTS
ASSOCIATES**

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INTRODUCTION

Gravesham Borough Council

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Introduction

This Design and Access Statement is for the proposal for the refurbishment and extension of the Port of London Authority's (PLA) Port Control Centre (PCC) building, situated within the PLA's London River House complex at Royal Pier Road, Gravesend. The project will also improve the access to the London River House and Link buildings and accommodate an upgraded Vessel Traffic Service System within the PCC. The project also includes proposals to enhance and bring up to date the surrounding public realm and landscape in front of the PCC and the PLA complex at Royal Pier Road, ensuring there is a consistent approach and a welcoming entrance for staff and visitors to the PLA, in keeping with the wider Conservation Area within which this site is located. The aim of this project is to ensure this site continues to act, both now and in the long term as the key base of operations for PLA as part of modern, future proofed facility.

The PLA is a Statutory Harbour Authority for the Tidal Thames, acting as custodians for the river across 95 miles from Teddington in West London into the Thames Estuary. The PLA is headquartered in Gravesend and was formed by an Act of Parliament in 1909 employing approximately 400 people. The PLA works to keep commercial and leisure users safe, protect and enhance the environment and promote the use of the river for trade and travel. The Port of London oversees 230,000 vessel movements handling over 53m tonnes of cargo each year and is currently the largest Port in the UK. Unlike most UK ports, the PLA does no cargo handling – that is done by the individual terminals along the river that make up the Port. Currently located within the PCC is PLA's Vessel Traffic Services (VTS) department, whom oversee the Port of London's VTS area which covers an area of approximately 600 square miles of waterway within the PLA navigational jurisdiction on a 24/7 basis 365 days a year. This operation forms an essential part of the PLA's responsibilities and the need to modernise and ensure this operation can continue at Gravesend is the key reason for this proposed development.

PROJECT DEFINITION

- The PLA
- Briefing
- Vision
- Sustainability

Gravesham Borough Council

The Port of London Authority

Foreshore Permits



Permits allow metal detecting, beachcombing and digging to 7.5cm.

Filming & Photography



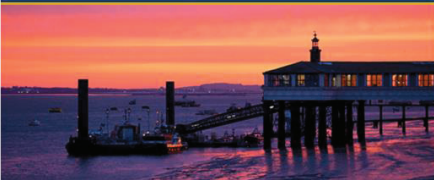
All commercial filming and photography on the tidal Thames requires a licence.

River Works Licensing



All development works and dredging in the tidal River Thames require a licence.

Vessel Licensing



We are responsible for the licensing of inland waterways vessels operating commercially on the tidal Thames.

PECs A & B



A Pilotage Exemption Certificate may be granted to a Master who fulfils criteria showing they can safely manage their vessel.

LKEs



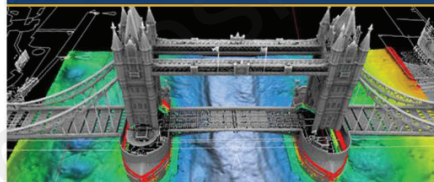
Masters of commercial vessels operating on the Thames in London need a Local Knowledge Endorsement.

Pilotage Services



Our team of skilled Pilots board and guide more than 10,000 ships through the Port of London every year.

Hydrography



A century of tradition, the latest technology. Knowledge and solutions for your business.

Ship Movements



Forthcoming and completed vessel arrivals and departures in the Port of London.

The Port of London Authority (PLA) was created to bring order to the chaos and congestion that prevailed on the Thames as rival wharfs, docks and river users battled for business in the late 1800s. The Bill that led to the creation of the PLA was introduced in April 1908; receiving Royal Assent as the Port of London Act, 1908, in December 1908.

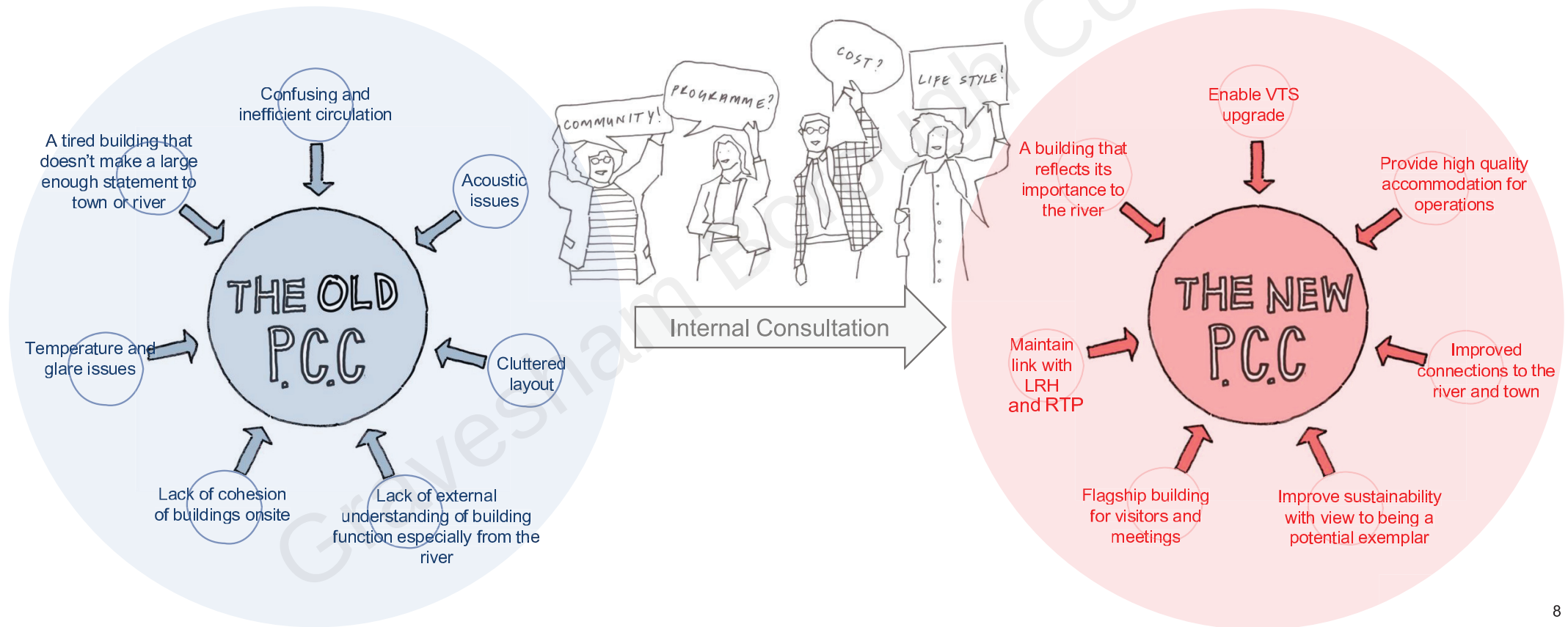
Today the PLA employs over 400 people and continues in its core role - helping people make the most of the river safely - whether it is for deep-sea trade, river borne freight within London, commuting, sailing or rowing.

Its operations over 95 miles of river from Teddington Lock to the North Sea include:

- Running the Port Control Centre and Thames Barrier Navigation Control
- Providing pilots to guide the largest ships in and out of the Port
- Surveying the bed of the river and dredging where necessary to ensure ships have safe access
- Patrolling the river from Gravesend to Putney
- Providing divers to survey things in the river and helping to remove obstructions

Briefing – Transformative Objectives

The development of the PCC represents a once in a generation opportunity for the PLA to modernise its site and buildings. Our first task involved re-establishing the brief and holding a short internal consultation event to get a better understanding of the requirements of the PLA. We are interested in both the spatial accommodation and the motives and aspirations of the organisation. The short consultation event was important as it helped us define the key project themes and a simple project vision.



Project Vision

Our briefing work allowed us to distil the project into a simplified vision, anchored around the two statements below. While the wider brief includes a number of key items that target a successful building, a simplified vision establishes the key drivers for design development and review.



A Project that enables a better connected PLA

A Building that makes the people in it feel valued
and makes a positive contribution to its context

Project Vision

Below outlines some of the core functions and spaces the new PCC building would need to contain. This is centred around the new upgraded VTS Operation floor which operates 24/7 monitoring all aspects of the River Thames. Each of these spaces have specific and varied requirements that have been considered in the design for the new PCC.

Proposed Key Accommodation:

The adjacent accommodation schedule outlines the current layout of the PCC building although the final arrangement of spaces is yet to be defined, we have organised the new PCC around a number of specific rooms and functions and support spaces which are outlined below.

Core Functions

VTS Operations - Operation room for live traffic management of the river

Emergency room - Room designated for emergency response to incidents on the river

Flexible working and innovation space – Space for working that is more flexible and can accommodate a number of different users

Pilot Ready – updating of the existing pilot ready space

Board room – Large meeting room that can be used for board meetings and presentations

Support Spaces

VTS Manager office - Small office adjacent to ops space

VTS Mess room - breakout space for VTS ops

Meeting rooms - increased number of meeting rooms for use by whole site

It is also envisaged that other items such as storage, plant space, risers, tea points etc. will be integrated into each floor where necessary

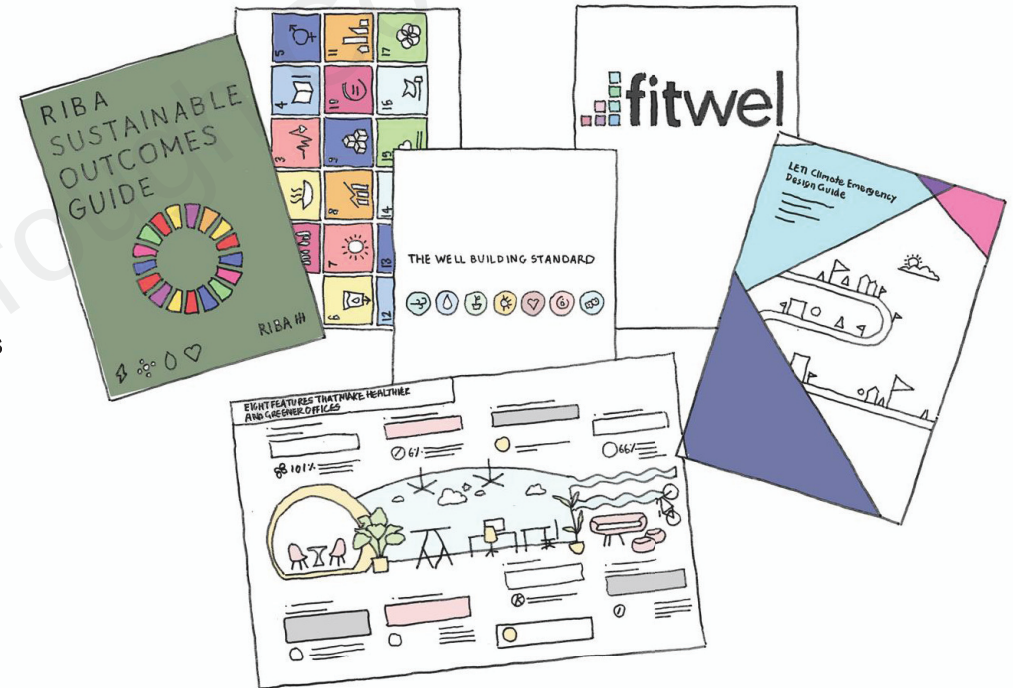
Sustainability - Setting Targets

Sustainability is of paramount importance to the PLA, whom in 2020 announced plans to more than half carbon emissions relative to a 2014 baseline by 2025, and achieve Net Zero by 2040, or sooner. Following a planned change to waste/bio-fuels for pilot launches, energy use within buildings and scope 3 emissions (which includes construction) will become the PLA's most significant carbon footprint. Therefore, as part of the PCC redevelopment the project team has identified 3 core goals:

- **Minimise embodied carbon**
- **Minimise operational carbon**
- **Increase health and wellbeing of users**

Setting clear and sensible targets for both operational and embodied carbon is key to a successful project as they will influence so many decisions. Operational targets for a building like PCC are challenging, due to its energy use profile, which is not a conventional office building. While there are a number of different accreditation schemes for buildings, such as BREEAM, WELL, NABERS etc., (as highlighted in paragraph 5.14.23 of the Local Plan) these all have differing merits and drawbacks. Initially though it is clear targets for operational and embodied carbon that are most beneficial and to find a sensible mechanism to promote health and wellbeing within the PLA.

The following pages set out the reasoning and approach to operational and embodied carbon targets. These give an indication of where appropriate targets could sit within a trajectory towards a net zero carbon economy.



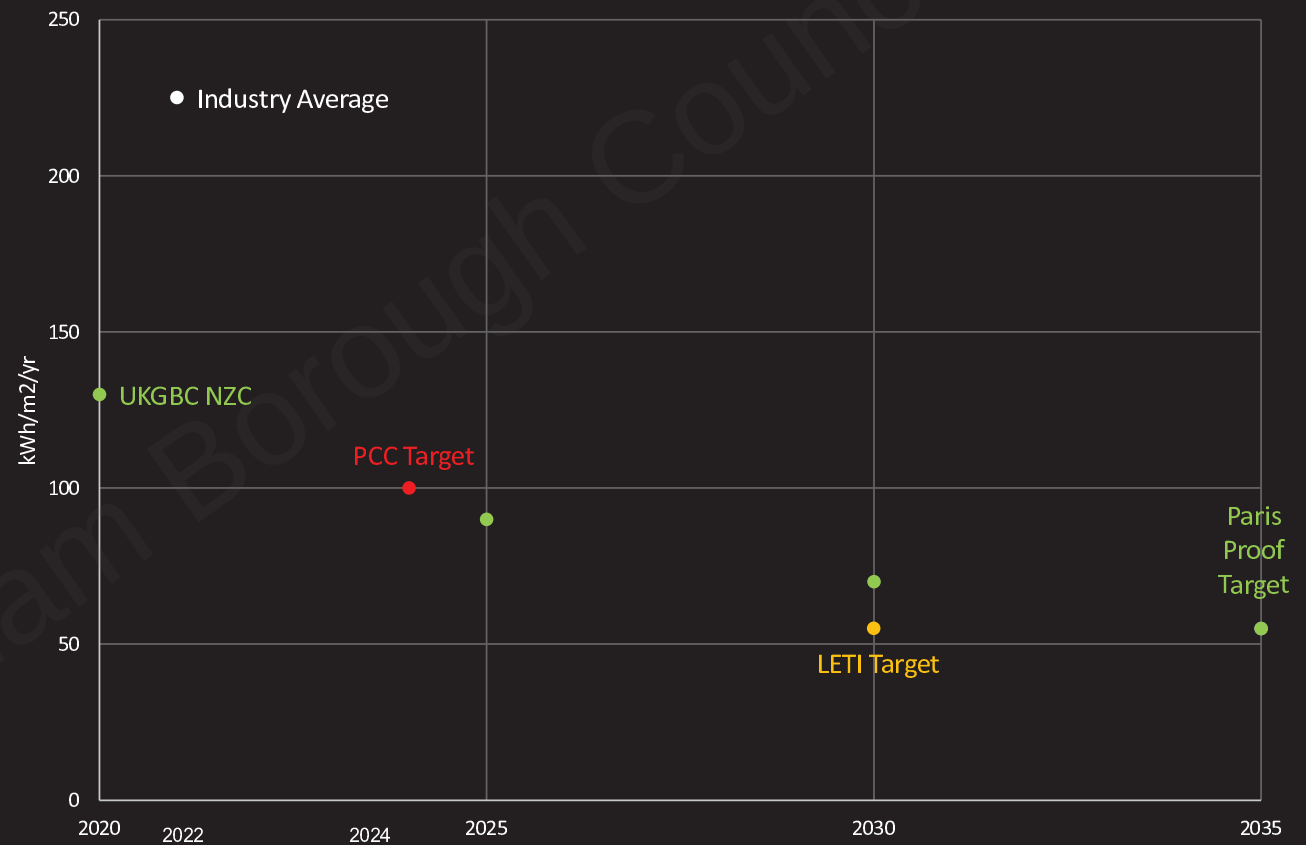
Sustainability - Setting Targets – Operational Carbon

This graph indicates the energy use intensity targets (EUI) to achieve the UK Green Building Council's definition of Net Zero Carbon (NZC).

Both UKGBC and LETI have coalesced around an EUI target of 55kWh/m²/a, albeit with differing target dates. However, those targets are developed for buildings operating 8h a day, 5 days a week, using standard office equipment.

However, the PCC building isn't a conventional office and the significant abnormal energy loads (VTS equipment) and increased time of operation (24h operation, 7 days a week) which need to be factored in. As a result of the predictive energy modelling at RIBA Stage 3 appropriate target of 100kWh/m²/a was determined, which is over 50% lower than current industry average. For more information please refer to 'TM54 Predicted Energy Use Study'.

As the project progressed, design team will look to further reduce operational energy in line with NZC principles.



Sustainability - Setting Targets - Embodied Carbon (A1–5)

As previously mentioned, upfront carbon (stages A1-A5) in new buildings is significantly greater than ongoing operational impacts. This graph indicates the embodied carbon reductions required to achieve suggested targets from LETI and the RIBA.

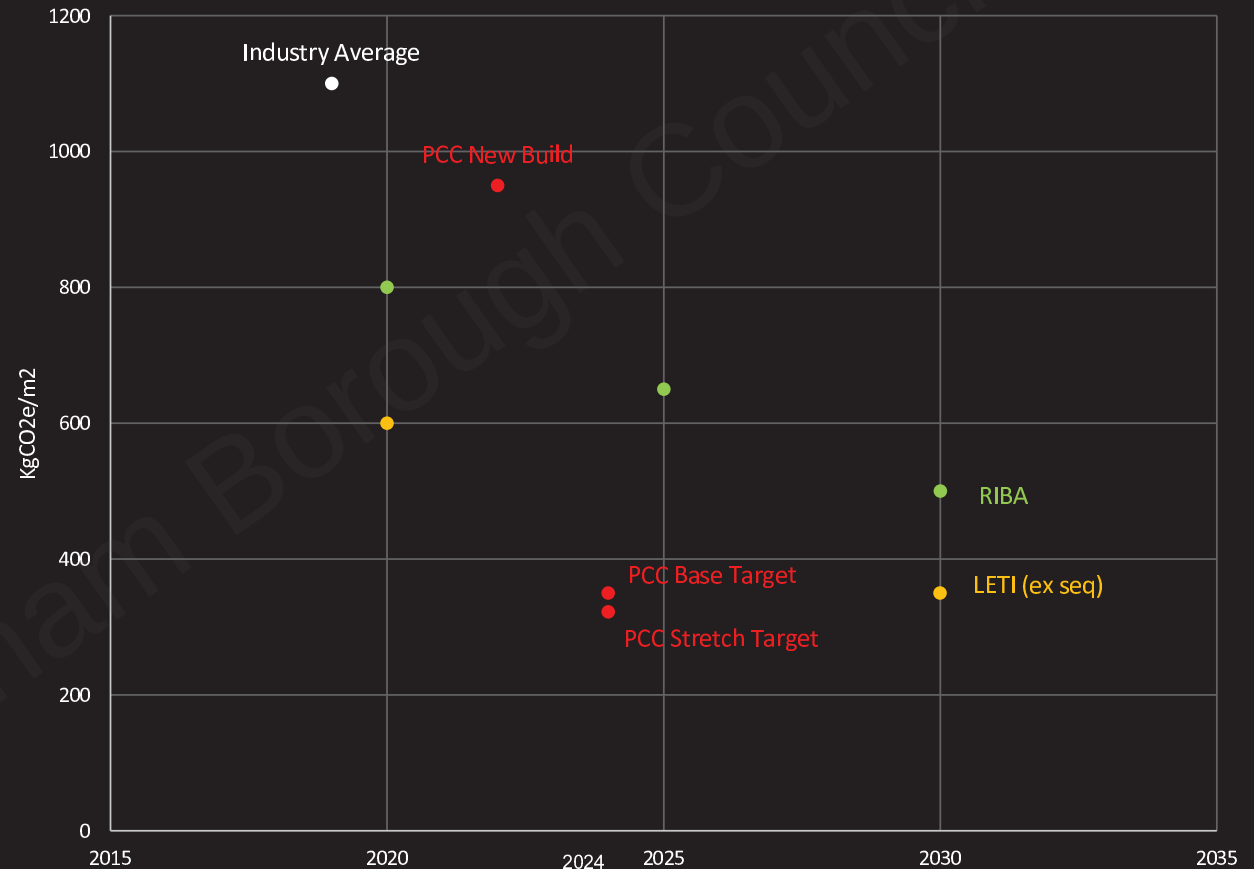
Here PCC has the inherent advantage of being a largely existing building (the LETI assumptions for 2030 assume at least 50% of each project is re-use).

The key challenge related to any refurbishment work is keeping any upfront additional embodied carbon to minimum. The less the existing building can be altered, the better. New elements will benefit greatly from being regenerative materials (usually meaning timber) wherever possible.

The Stage 3 - Upfront and Embodied Carbon Report outlines reduction strategies aim to achieve a base target of 350 kgCO₂e/m² at Practical Completion and further reductions to reach 320 kgCO₂e/m² - a stretch target that goes beyond the LETI A rating threshold.

The Stage 3 - Upfront and Embodied Carbon Report considered the scenario where the existing structure and external walls of PCC were demolished and rebuilt. The Upfront Carbon of the new build PCC building would have been at least 950 kgCO₂e/m² or higher. The carbon emissions of the refurbished PCC are almost three times lower than the new build scenario and over three times lower than the industry average emissions.

For more information please refer to 'Stage 3 - Upfront and Embodied Carbon Report'.



Sustainability - Setting Targets

Given the information stated previously. The PLA have settled on the following quantitative targets, which will be further refined as the project progresses.

1. **Operational Energy Target:** 100 kWh/m²/a
2. **Upfront Carbon Target :** 350 kgCO₂e/m²
3. **Target Criteria from WELL Criteria:** at least 60 %

This criteria will be constantly assessed through the duration of the project. The PLA have commissioned specific studies on both embodied and operational carbon to give them an accurate measure of how the buildings should perform, allowing them to improve on performance if targets are not being met. The 'TM54 Predicted Energy Use Study' and 'Stage 3 - Upfront and Embodied Carbon Report' submitted alongside the application provide more detail on the operational energy and upfront carbon calculations and targets.

It is important to note that the above targets are more onerous in comparison to criteria set by BREEAM or another similar accreditation and factor in specific demands of the VTS operation centre. The adopted approach allows to interrogate the design during its development and provides a clear overview of energy and carbon consumption on the project. As seen on graphs on pages 12 and 13, carbon footprint and energy emissions the PCC is designed to be over 50% lower than an average office building.

These targets are aspirational and sometimes cannot be met due to various factors, but setting aggressive but sensible targets are important to allow for future lessons to be learned.

