

Urban&Civic



Carbon Management Framework

Executive Summary


November 2022




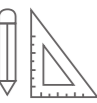
Exec Summary - Carbon Flow & Feedback Loop


This Carbon Management Framework provides guidance for Urban&Civic and their value chain partners to work collaboratively to deliver the ambition of the Map to Net Zero and stay within Urban&Civic's carbon budget. The framework highlights the **key actions and responsibilities** of relevant value chain partners within each design and construction stage. It provides an overview of the **carbon tools and resources** used to create a context that empowers, enables and upskills the Urban&Civic team and wider value chain partners towards carbon reduction on Urban&Civic projects and beyond.

Urban&Civic's Carbon Management Framework is based on four pillars:

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Engage & Collaborate: Multidisciplinary and collaborative approach to design, and early engagement with contractor teams, supply chain and relevant authorities.
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Low Carbon Design (Optimise & Innovate): Challenge and explore. Integrate carbon as essential design consideration en par with cost and functionality to stay within Urban&Civic's carbon budget. Use early design stage optioneering for the biggest carbon saving potential.
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Measure & Monitor: "If you cannot measure it, you cannot improve it". Regular carbon footprinting of the design development, to compare design options and review alignment with Urban&Civic project specific carbon targets. Use carbon modelling to drive design decision making. Robust monitoring & reporting of construction activity by contractors.
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Feedback & Influence: Create feedback loops to ensure progress and knowledge is shared across the company and across sites. Use influence and knowledge to empower, enable and upskill wider value chain. Communicate lessons learned and successes with the wider industry and the public.

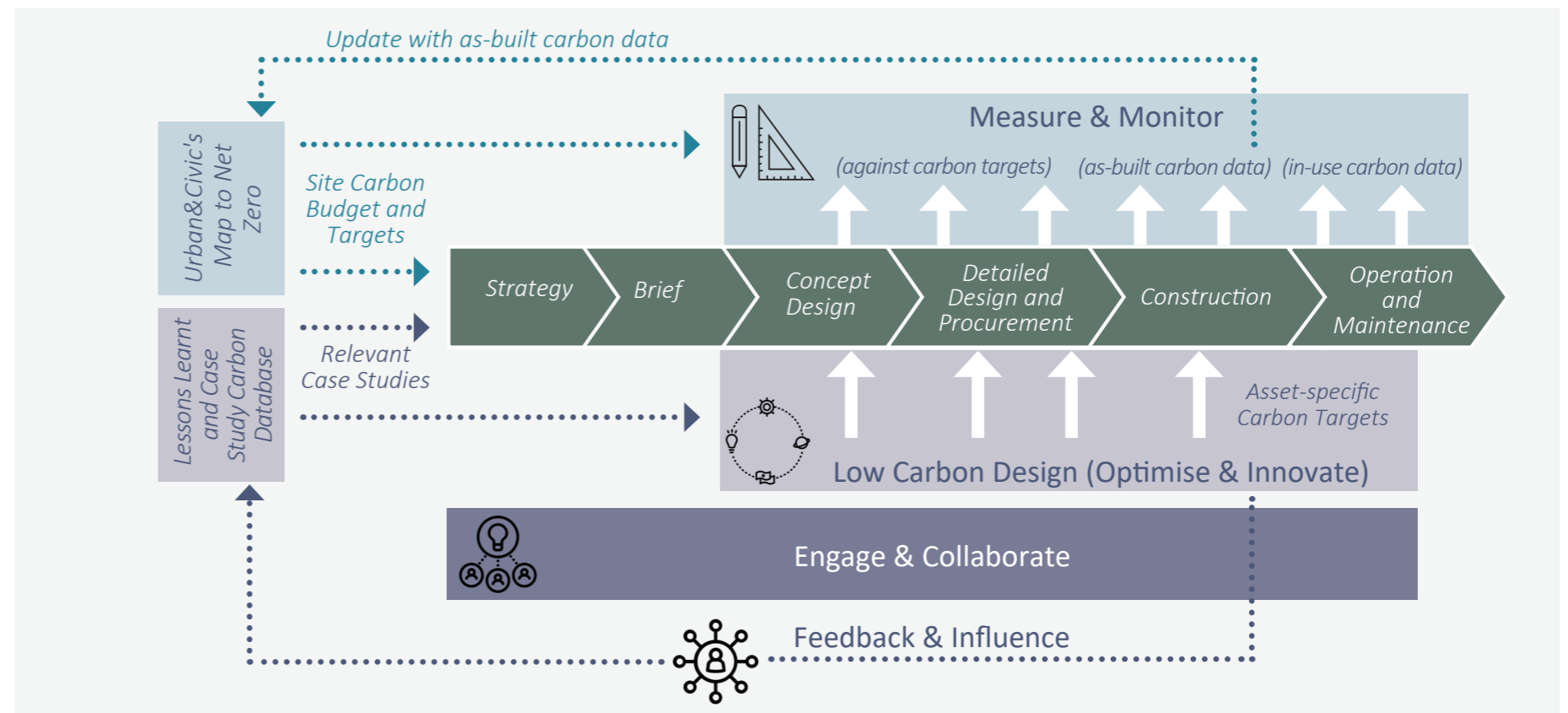


Figure 1 : Urban&Civic's Carbon Management Framework Pillars across site delivery stages.

Exec Summary - Key Value Chain Partners

To achieve the ambition set in the Map to Net Zero, all value chain partners need to be committed to the journey. Continuous engagement and clear communication around roles and responsibilities is paramount within this context.

Figure 2 shows the key value chain partners and how they relate to each other within the carbon management framework. Chapter 4 describes the key actions for all value chain partner for the implementation of the framework in each project stage.

U&C Board and Leadership (BL)

Provide the vision and a corporate context that empowers, enables and upskills the Urban&Civic team and wider value chain partners towards climate action.

U&C Head of Sustainability (HoS)

Strategic role, oversees and enables the implementation of carbon management across the business, in collaboration with the Carbon Manager. Drives low carbon design & innovation, stakeholder engagement and the delivery of the Map to Net Zero ambition. Reports back to U&C Leadership and is responsible for the annual carbon reporting.

U&C Carbon Manager (CM)

Active role, moving between development sites to support everyday carbon management and drive low carbon design and construction from an expert point of view. Collects and manages carbon data and case studies to feed back to central carbon database and wider U&C team. Supports teams in utilising carbon tools and processes and is responsible for their development and updates. Assists HoS in annual updates to U&C's Map to Net Zero and annual carbon reporting.

U&C Wider Team (PMs)

Lead implementation of the carbon management framework on projects, including setting out key dates & timelines for design team and contractors, managing data collection, tying carbon with cost and ensuring integrated design approach. Report carbon data and case studies to the Carbon Manager and Head of Sustainability. The appointment of a 'carbon champion' on each site can be considered.

Design Team (DT)

Drive carbon reduction innovation and low carbon design optioneering during design stages. Work corroboratively with other designers and contractor to optimise proposals. Undertake carbon analysis at key design stages and report Whole Life Carbon data.

Main Contractor (Co)

Drive carbon reduction innovation and low carbon procurement of own activities, sub contractors and supply chain. Collect and report on site activity and as-built carbon data.

Facilities Manager (FM)

Monitor and report operational performance of leased U&C assets.

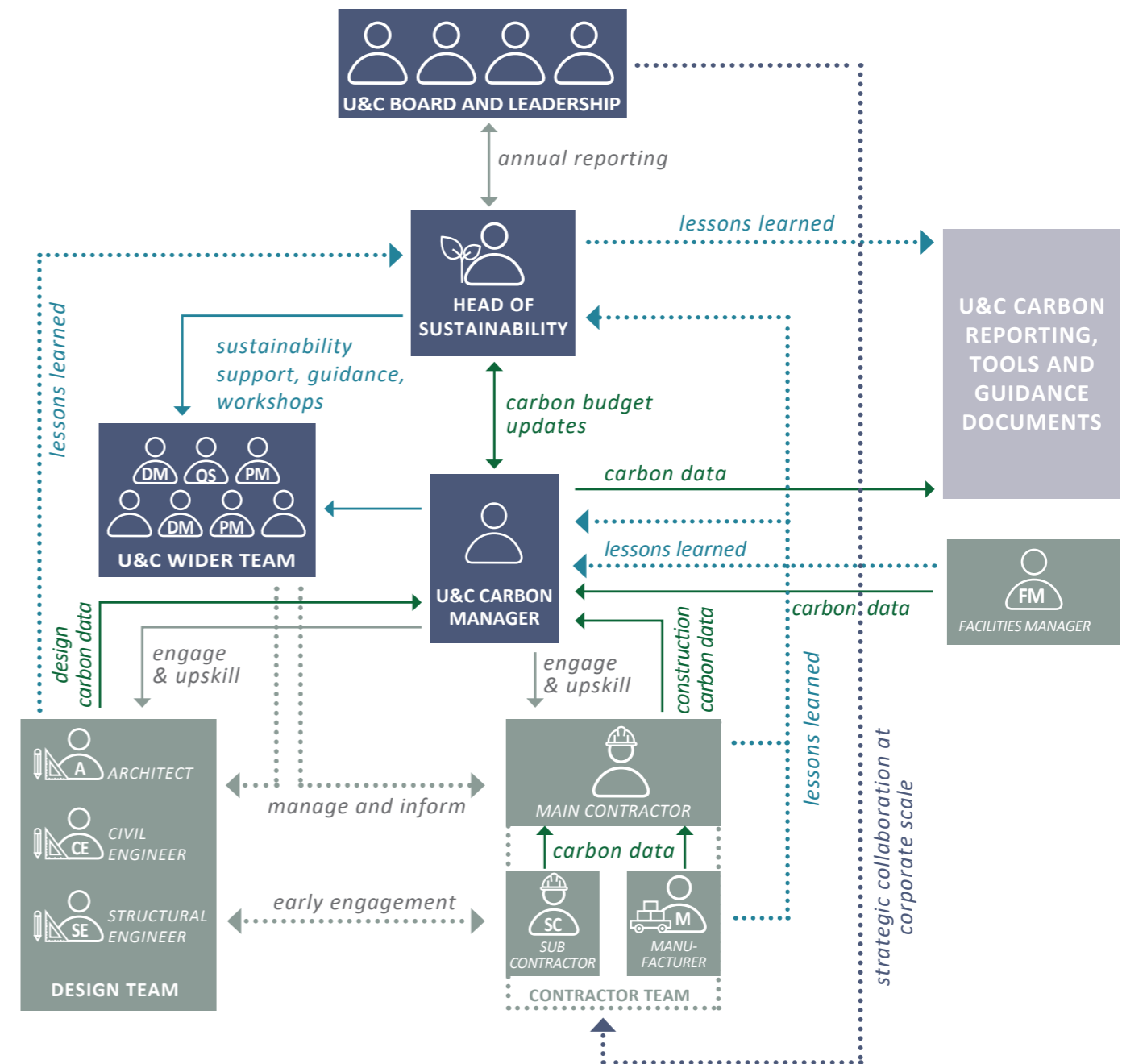


Figure 2 : Carbon management value chain structure

Exec Summary - Carbon Tools & Resources

Urban&Civic propose to use a range of key carbon tools and resources to assist with the implementation of the Carbon Management Framework.

These tools and resources can be subdivided in:

Strategic Tools: provide site specific and long term carbon targets and guidance towards Urban&Civic's net zero carbon future.

Data Collection & Reporting Resources: provide guidance and tools to support with carbon and performance data monitoring, collection and management

Knowledge Sharing & Guidance: establish a strong context of feedback and knowledge sharing to increase carbon literacy within Urban&Civic and the wider value chain partners.

Figure 3 illustrates how these tools and resources relate to each other and the project stages. Further detail on the contents of these tools and resources, key responsibilities and updating processes can be found in Chapter 3 of this Carbon Management Framework.

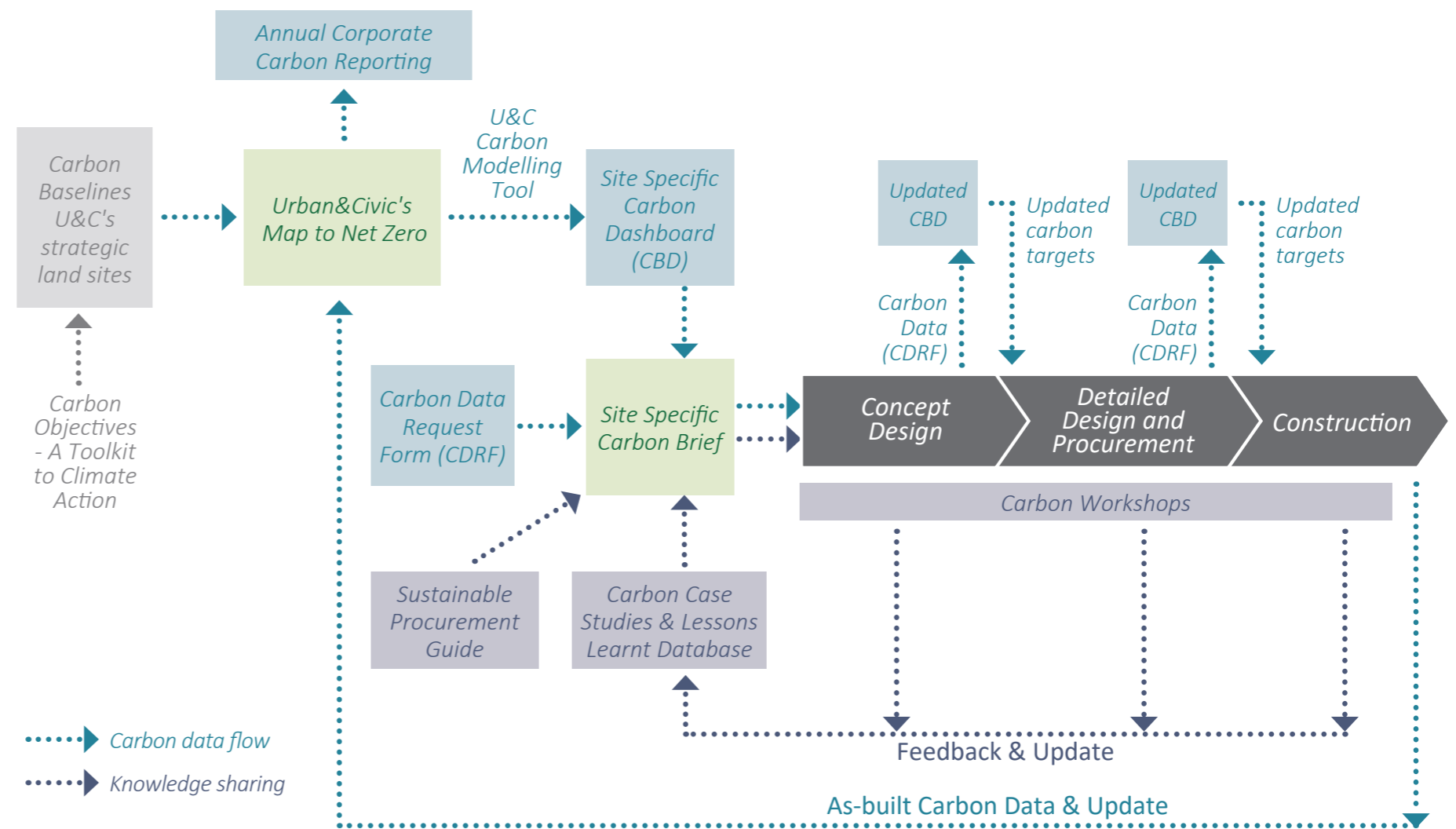


Figure 3 : Urban&Civic's Carbon Management Tools and Guidance

Exec Summary - Actions & Responsibilities

		CARBON MANAGEMENT PILLARS					
URBAN&CIVIC ACTIONS	<p>Annual update of the Map to Net Zero with as-built data from sites and predicted business growth. <i>[HoS and CM with support of external consultant]</i></p> <p>Annual corporate carbon disclosure/reporting with updated carbon data from the Map to Net Zero <i>[HoS & U&C LB with support of external consultants]</i></p> <p>Develop Carbon Dashboard Format. <i>[External consultant, review by HoS/CM and support by PMs]</i></p> <p>Develop bespoke U&C Carbon Modelling tool. <i>[External consultant, review by HoS/CM and support by PMs]</i></p> <p>Set up central U&C database for Carbon Case Studies & Lessons learnt <i>[CM]</i> and update/add to on monthly basis <i>[PMs]</i>.</p> <p>Develop Sustainable Procurement Guide for low carbon materials, ethical sourcing, and health and wellbeing. <i>[HoS/CM/PM and support of ext. consultant and Co]</i></p> <p>Develop standard approach to Carbon Workshops for buildings and infrastructure projects. <i>[HoS & CM with support of external consultant]</i></p> <p>Development of streamlined processes for carbon data collection and data analysis/visualisation platform.</p>	<p>Site-specific Feasibility Carbon Dashboard & Carbon Budget Allocation <i>[CM using U&C Carbon Modelling Tool and/or DT information]</i></p> <hr/> <p>Site specific Carbon Brief <i>[HoS & CM]</i>. Includes:</p> <ul style="list-style-type: none"> Feasibility carbon dashboard & Carbon Budget with building/ infrastructure targets Carbon assessments & reporting requirements Reclamation audit Relevant case studies and lessons learnt from the central U&C database. 	<p>Update Carbon Dashboard with targets following end of stage WLC assessment <i>[CM, data collection by PMs]</i>.</p> <hr/> <p>Carbon Workshops with the design team. <i>[Instigated by PMs, support from HoS, CM or external consultant where required]</i></p> <hr/> <p>Ensure carbon performance is embedded in all DTMs and design decision making <i>[PMs]</i></p> <hr/> <p>Collect Lessons Learnt & Case Studies and add to central U&C carbon database. <i>[PMs with CM support]</i></p> <hr/> <p>Manage and support Carbon Optioneering <i>[PMs, with CM support]</i></p>	<p>End of stage Carbon Dashboard update and updated construction stage carbon targets following detailed WLC assessment <i>[CM, data collection by PMs]</i>.</p> <hr/> <p>Carbon Workshops with the design team (and potentially supplier(s)/contractor(s)) <i>[Instigated by PM, support from HoS, CM or external consultant where required]</i></p> <hr/> <p>Ensure carbon performance is embedded in all DT meetings <i>[PM/DMs]</i> & at the heart of specification design & procurement.</p> <hr/> <p>Manage/Facilitate early-stage contractor and supply chain engagement <i>[PMs]</i></p> <hr/> <p>Collect lessons learnt and case studies and add to central U&C carbon database. <i>[PMs]</i></p> <hr/> <p>Manage and support Carbon Optioneering <i>[PMs, with CM support]</i></p>	<p>Construction Carbon Brief with updated targets and sustainable procurement guidance. <i>[PM/DMs with support of CM]</i></p> <hr/> <p>Monthly review of as-built Carbon Data submitted by contractors <i>[PMs provide information to CM for central database]</i></p> <hr/> <p>Carbon Workshops with the contractor team. <i>[Instigated by PM/DMs, support from HoS, CM or external consultant where required]</i></p> <hr/> <p>Collect lessons learnt and case studies and add to central U&C carbon database. <i>[PMs]</i></p> <hr/> <p>Manage and support Carbon Optioneering <i>[PMs, with CM support]</i></p>	<p>Regular carbon data collection and review. Operational carbon and embodied from maintenance & repair.</p> <hr/> <p>Post Occupancy Evaluation Strategy. <i>[Developed by HoS and CM with support of external consultant where required]</i></p> <hr/> <p>Collect lessons learnt and case studies and add to central U&C carbon database. <i>[PMs]</i></p>	Measure & Monitor Engage & Collaborate Feedback & Influence Low Carbon Design
	KEY GOALS	<p>Strategy / Corporate</p> <ul style="list-style-type: none"> Effectively embed Carbon Management Framework in the business and across all sites. Monitor and communicate progress; deliver the Science-based Climate Ambition Get BL buy-in to transform, lead and innovate 	<p>Brief</p> <ul style="list-style-type: none"> Develop a robust carbon budget & ambitious carbon targets for the project 	<p>Concept Design</p> <ul style="list-style-type: none"> Masterplan Design efficiency; Optimise scale of grey infrastructure & built assets Building design to RIBA 2025/2030 Climate Challenge targets 	<p>Detailed Design & Procurement</p> <ul style="list-style-type: none"> Optimise elemental design for whole life carbon footprint. Design for fossil fuel free, low energy performance. Set procurement & low carbon construction targets 	<p>Construction</p> <ul style="list-style-type: none"> Meet the upfront carbon targets of the project Validate upfront carbon performance of the site 	<p>Operation & Maintenance</p> <ul style="list-style-type: none"> Know & optimise in-use energy & carbon performance
CONSULTANT ACTIONS	<p><i>BL = U&C Board and Leadership</i></p> <p><i>HoS = U&C Head of Sustainability</i></p> <p><i>CM = U&C Carbon Manager</i></p> <p><i>PMs = U&C Project Managers</i></p> <p><i>DMs = U&C Development Managers</i></p> <p><i>DT = Design team of masterplanner, architect, engineers, etc.</i></p> <p><i>Co = Main Contractor</i></p> <p><i>FM = Facilities Manager</i></p>	<p>Challenge/Review the Carbon Brief</p> <p>Build less Carbon Optioneering to review reuse of materials, elements and buildings found on site, and compare different masterplan options <i>[DT (masterplanner, highways and SuDS consultant as a minimum), using U&C Carbon Modelling Tool (available for infrastructure assets only) or suitable in house/third-party tool]</i></p>	<p>Carbon Optioneering with WLC assessments at start of stage and following design changes (in line with cost reviews). Align with targets from the Carbon Brief. <i>[DT]</i></p> <hr/> <p>Record lessons learnt and case studies throughout design in requested format. <i>[DT]</i></p> <hr/> <p>Engage/Collaborate/Contribute to Carbon Workshops. <i>[DT]</i></p> <hr/> <p>End of stage WLC assessment. <i>[DT using U&C Carbon Modelling Tool (available for infrastructure assets only) or suitable in house/third-party tool]</i></p>	<p>Carbon Optioneering with WLC assessments throughout following design changes and in line with cost reviews. Design to, and review against carbon budget and targets from Carbon Brief. <i>[DT]</i></p> <hr/> <p>Record lessons learnt and case studies throughout design in requested format. <i>[DT]</i></p> <hr/> <p>Engage/Collaborate/Contribute to Carbon Workshops. <i>[DT]</i></p> <hr/> <p>End of stage detailed WLC assessment (third party verified). <i>[DT using in-house or consultant specialist]</i></p>	<p>Carbon Optioneering to construct to carbon budget and targets, and Sustainable Procurement Guide from the Construction Carbon Brief. <i>[Co]</i></p> <hr/> <p>Record lessons learnt and case studies throughout design in requested format. <i>[DT]</i></p> <hr/> <p>Attend/Lead Carbon Workshops. <i>[Co]</i></p> <hr/> <p>Ongoing construction data collection and carbon reporting <i>[Co monthly or 'live' through platform TBD, in U&C requested format]</i></p>	<p>Energy monitoring and data collection for all U&C owned/leased assets. <i>[FM]</i></p> <hr/> <p>Construction data collection and carbon reporting for key refurbishment, maintenance or repair work. <i>[Co]</i></p>	Low Carbon Design Feedback & Influence Engage & Collaborate Measure & Monitor
WORKSHOPS		<p>Carbon workshops</p> <ul style="list-style-type: none"> Build less workshops for each infrastructure package and building design at start of concept design stage. WLC review, low carbon design and target update workshop at the end of concept design stage. 	<p>Carbon workshops</p> <ul style="list-style-type: none"> Build low carbon workshops for each infrastructure package and building design at start of detailed design stage. Low carbon specification and procurement workshop mid detailed design stage. WLC review, low carbon design and construction target update workshop at the end of detailed design stage. 	<p>Carbon workshops</p> <ul style="list-style-type: none"> Low carbon specification and procurement after contractor appointment. Low carbon construction site after contractor appointment. Monitoring and data collection after contractor appointment. 			



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