

Requirement	1. Management Activities		2. Setting Limits & Performance Targets		3. Design Activities	4. Operational Energy and Carbon Assessment		5. Whole Life Cycle Carbon Assessment	6. Meeting Upfront Carbon Limits
Sub Requirement	Client Project Team (Trust)	Net Zero Carbon (NZC) Coordinator	Upfront Carbon	Operational Energy		Modelling	Energy Sources		
Reporting Mechanism	OE&C Compliance Tool Tab 1.0 Space Allocation	Design Management Tool Tab 1.0 Summary, Tab 2.0 Checklist and 3.0 Design Register	WLC Compliance Tool Tab 1.0 Project Information	OE&C Compliance Tool Tab 2.0 Whole Building PTs and 3.0 Compliance Requirements	Design Management Tool Tab 3.0 Design Register	OE&C Compliance Tool Tab 4.0 Energy Limit Compliance, 5.0 Building Services PT Compliance, 6.0 Derogations log, 7.0 Energy Use Reporting	OE&C Compliance Tool Tab 6.0 Derogations Log, 8.0 Energy Strategy Reporting	WLC Compliance Tool Tab 2.0 OBC, 2.1 FBC, 2.2 Handover	WLC Compliance Tool Tab 3.0 WLC Summary and 4.0 Assumptions
Pre-design	The compliance tools should be used to aid option appraisal and setting a low carbon brief	The nominated representative (e.g. advisors) shall use the tools and previous experience of schemes to inform option selection	Indicative Upfront Carbon estimations for options appraisal shall be derived using Tab 1.0 of the tool	Indicative energy (and carbon) intensity for options appraisal shall be derived based on rules of thumb from the energy limits and associated magnitudes of development.	No Requirements.	No Requirements	Engagement with the Local Authority Area in respect to local opportunities/requirements related to zero carbon energy sources should be carried out, including heat and energy network connection requirements. Involvement of Specialist(s) as necessary.	No Requirements	No Requirements.
Design brief / preparation	The Brief shall be set. The Space Allocation Tab (1.0) shall be used to determine the classification of spaces at high level, in reference to block schematics or proposed space split. Design to appoint NZC Coordinator.	The nominated representative e.g. NZC Coordinator shall undertake Items 1-7 in Tab 2.0 (Checklist) ensuring limits and targets are correctly set and shared with the design team.	The WLC Compliance Tool Project Information Tab 1.0 must be completed using the Output from the OE&C Compliance Tool Space Allocation Tab 1.0. The limits will be automatically developed based on the inputs.	Energy limits calculated in Tab 3.0 based on the brief as entered in Tab 1.0. Whole building PTs are calculated in Tab 2.0. Tab 3.0 will identify the spaces for which compliance with building services PT's is required.		Ensure Design Energy Limits in Tab 4.0 and Building Services PTs in Tab 5.0 are established	No Requirements	Copy the Upfront Carbon Limits from the Project Information Tab 1.0 to the inputs in Tab 2.0.	
RIBA 2	A review of the impact of changes on the brief and energy limits is required. Space Allocation (Tab 1.0) to be updated as necessary - Delegation of updating Tab 1.0 to the NZC Coordinator or design team is acceptable.	The NZC Coordinator shall ensure limits are amended as required, recorded in Tab 1.0 (Summary) and communicated to the design team. The NZC Coordinator to regularly update the Design Register (Tab 3.0)	The limits shall be reviewed following changes to the brief and updated if necessary. The NZC Coordinator must record changes in the Design Management Tool Tab 1 (Summary) to capture the effect and reasoning.		Undertake design activities as required in the Design Management Tool Design Register Tab 3.0. Boxes are greyed out and locked where not required at this stage.	Undertake high level DSM and report on Design Energy Limits in Tab 4.0. Input design values against expected values for Building Services PTs Tab 5.0. Complete Derogations log, if required, in Tab 6.0. Output Energy Use Reporting Tab 7.0.	Establish the building's energy strategy using the energy and heat hierarchy, ensuring that decarbonisation pathways align with NHS E/I target dates. Complete Derogations log, if required, in Tab 6.0.	Undertake WLC Assessment in Tab 2.0. Quantity estimations are acceptable, with guidance provided in the commentary column. Simplified approaches to carbon calculations are accepted, e.g. mid level calculation for building services, and lift up factors. Assumptions and estimations used should be clearly stated in the commentary column, replacing the guidance in the register.	Progress against the limits shall be tracked throughout the design stage to ensure compliance can be demonstrated at OBC.
Outline Business Case - Compliance	The Trust shall review the evidence submitted and ensure compliance has been achieved. Derogations must be provided where limits are exceeded with sufficient justification.	Demonstration of compliance is the responsibility of the NZC Coordinator - compiling the relevant reporting tabs from the Compliance Tools, as specified in the Design management Tool Checklist (Tab 2.0) Items 9-15.	The WLC Compliance Tool Project Information Tab shall be reported to provide carbon limits used.	The OE&C Compliance Tool Tab 2.0 & 3.0 shall be reported to provide energy limits and performance targets used.	Compliance shall be demonstrated through submitting the Design Register output in the Design Management Tool, alongside any supporting information e.g. results of optioneering studies. Actions shall be reported against all activities required at RIBA 2.	Prepare and submit the Energy Use Reporting Tab 7.0, and Derogations Tab 6.0 if applicable, based on concept design. Where derogations have been identified, justified reasons and quantified impacts must be provided.	Prepare and submit the Energy Strategy Reporting Tab 8.0 and Derogations Tab 6.0 if applicable, based on concept design. Where derogations have been identified, justified reasons and quantified impacts must be provided. Report all planned energy sources and their carbon intensities, including feasibility study of the Decarbonisation Strategy, that includes achievement dates for NZC and alignment to broader Estate decarbonisation plans where applicable.	Compliance shall be demonstrated through submitting the WLC Compliance Tool Tab 2.0. This shall also be reported to the relevant database as requested by the Client.	Compliance shall be demonstrated through submitting the WLC Compliance Tool Tab 3.0 and 4.0. Derogations must be raised if the limit is exceeded - this is only possible on grounds set out in Section 6.3.
RIBA 3 and 4a - Spatial Coordination and Technical Design	Whilst managing change, a review of the impact of changes on the brief and energy limits is required. Space Allocation (Tab 1.0) to be updated as necessary - Delegation of updating Tab 1.0 to the NZC Coordinator or design team is acceptable.	The NZC Coordinator shall ensure limits are amended as required, recorded in Tab 1.0 (Summary) and communicated to the design team. The NZCC shall ensure the Design Register (Tab 3.0) is regularly updated to capture design activities against the requirements of the Standard.	The limits shall be reviewed following changes to the brief and updated if necessary. When updated, the NZC Coordinator shall record this in the relevant tab to capture the effect and reason of the change.		Undertake design activities as required in the Design Management Tool Design Register. Boxes are greyed out and locked where not required at this stage	Undertake sub-hourly DSM, coupling solar shading, daylight control strategies, HVAC plant and bulk airflow network, to develop the design to ensure compliance to technical requirements listed within the Standard. Use FM and contractor engagement to update design assumptions.	Further refine energy strategy, gathering evidence that technologies are compliant with the Standard, including further details on decarbonisation plan(s), energy generation and demands management technologies.	Update assessment using tab 2.1, replacing assumptions and estimations with known quantities, EPD information and supplier information where possible.	Progress against the limits shall be tracked throughout the design stages to ensure compliance can be demonstrated at FBC.
Full Business Case - Compliance	The Trust shall review the evidence submitted and ensure compliance has been achieved. Derogations must be provided where limits or other performance targets are exceeded with sufficient justification.	Demonstration of compliance is the responsibility of the NZC Coordinator - compiling the relevant reports from all of the Tool tabs, as specified in the Design management Tool Checklist (Tab 2.0) Items 9-15.	The WLC Compliance Tool Project Information Tab shall be reported to provide carbon limits used.	The OE&C Compliance Tool Tab 2 & 3 shall be reported to provide energy limits and performance targets used.	Compliance shall be demonstrated through submitting the Design Register output in the Design Management Tool, alongside any supporting information e.g. results of optimisation studies. Actions shall be reported against all activities required at RIBA 3&4.	Prepare and submit the Reporting tabs 7.0 and 8.0 and Derogations log (Tab 6.0), if applicable. Where derogations have been identified, justified reasons and quantified impacts must be provided.	Compliance shall be demonstrated through submitting the WLC Compliance Tool Tab 2.1. This shall also be reported to the relevant database as requested by the Client.	Compliance shall be demonstrated through submitting the WLC Compliance Tool Tab 3.0 and 4.0. Derogations must be raised if the limit is exceeded - this is only possible on grounds set out in Section 6.3.	
RIBA 4b - Technical Design (typically contractor detailing)	Limits shall be stated as mandatory requirements in tender documentation and carbon reduction opportunities should be requested. This must form part of the procurement scoring.	The NZC Coordinator shall ensure limits are amended as required and communicated to the construction team. The NZC Coordinator shall ensure the Design Register is shared with the Contractor.	The limit shall become the calculated value submitted at FBC, following acceptance of derogations.		Actions shall be updated as required until the detailed design is finalised. The register tab shall be shared with the Contractor during tendering to allow carbon reduction opportunities to be proposed.	Undertake RIBA 4 sub-hourly DSM, coupling solar shading, daylight control strategies, HVAC plant and bulk airflow network, to further develop/amend the design, with quoted manufacturer specific inputs to ensure planned energy strategy and operational energy limits will be complied with at handover. Metering arrangement, as set out by HVAC, lighting and controls team, to be reflected in the DSM. Include evidence that the modelling assumptions reflect the latest known operational conditions of the building and are reflective of final product specifications.	Continue to update assessment, finalising design calculations in Tab 2.1 and updating following Contractor comments.	The Contractor may challenge any assumptions or quantities provided by the design team and carbon calculations updated as required.	
RIBA 5 - Construction	Embodied carbon and energy performance shall be integrated within requirements for Responsible Sourcing of construction products.		The limits shall be accepted by the Contractor prior to appointment.		As part of continued improvement, the Contractor shall submit carbon reduction proposals as part of the tender response using the design information presented. Updates shall be added to the Design Register by the design team.	Undertake: 1) Quality Assurance inspections related to Operational Energy performance such as fabric installation inspections and evidencing 2) Programme of physical testing: fabric integrity / plant operational tests / natural light / thermal comfort / indoor air quality. 3) Full commissioning of building services in line with control strategies, setpoints, required flow rates, as in DSM. 4) FM strategy and building user guides related to Operational Energy systems 'in use', review and sign off	Tab 2.2 shall be developed using accurate, as-built information. EPDs shall be provided for all products supplied, transport emissions provided, and on-site waste rates tracked. Site emissions shall be tracked and attributed where possible to elements, otherwise lump sums may be reported.	Progress against the limits shall be tracked throughout the construction stage to ensure compliance can be demonstrated at Handover.	
RIBA 6 - Handover & Post-Construction Verification	The Trust shall review the evidence submitted and ensure compliance has been achieved. Derogations must be provided where limits are exceeded with sufficient justification.	Demonstration of compliance is the responsibility of the NZC Coordinator - compiling the relevant reports from all of the Tool tabs, as specified in the Design management Tool Checklist (Tab 2.0) Items 9-15.	No Requirements		Compliance shall be demonstrated through submitting the Design Register. Evidence of carbon savings should be presented.	Prepare As-Built revision of the DSM with actual specification including commissioning test outputs used. Compare performance against final As-Designed DSM. FM strategy, full description of operation and building user guides to assist with handover and ensure energy limits are complied to in operation. Compliance via submission of Reporting tabs Tabs 7.0 and 8.0 and Derogations Log Tab 6.0, as per handover conditions.	Collate evidence that the As-Built / Installed technologies comply with the Project's Energy Strategy.	Compliance shall be demonstrated through submitting the WLC Compliance Tool Tab 2.2. This shall also be reported to the relevant database as requested by the Client.	Compliance shall be demonstrated through submitting the WLC Compliance Tool Tab 3.0 and 4.0. Assumptions shall be replaced with actual as-measured data in Tab 4.0. Derogations must be raised if the limit is exceeded - this is only possible on grounds set out in Section 6.3.
RIBA 7 - In Use	Trust to review process and prepare a short summary of lessons learned, supporting future knowledge share and continuous improvement.	NZC Coordinator to ensure all relevant reports are shared with Central NHS and industry databases as required, and lessons learnt are captured to feed into the development of future versions of the Standard. NZC Coordinator to log changes made within initial operation as carried out in the Operational Energy and Carbon Assessment.	Monitoring and Verification Plan must be enacted to monitor building outcomes across the energy and carbon limits and performance targets. An investigation for non-compliance must be undertaken if applicable and a Corrective Action Plan formed where necessary with continued conversation between the Client and Project Team. In-use monitoring will be ongoing and feed into ongoing Estate Management and optimisation.		Contractor and project team review process and prepare a short summary of lessons learned (including benefits of applying circular economy principles), supporting future knowledge share and continuous improvement.	Follow Monitoring & Verification Plan to verify performance over the first year of operation by comparing on a monthly basis the As-Built DSM against the final As-Designed DSM to identify any areas of poor performance and plan and instruct mitigations. Continue monitoring for 3 years as per the requirements of the Standard.	Collate evidence from monitoring that installed technologies, as well as connections to any local network or existing estate infrastructure, where relevant, comply with the Project's Energy Strategy and the systems are operating at their assumed efficiencies. Update on track of decarbonisation plans.	Summary of unknowns and missing information to be provided in a short report to identify key areas of focus for future projects	Summary tab with results at each stage to be reported back to central NHS to inform future development of the Standard.