

# The 'Circular-Ready' Built Environment Checklist

	STRATEGY	RESPONSIBILITY	CIRCULAR-READY CHECK		OUTCOME	BUILDING STAGE
<b>BUILDING &amp; CONSTRUCTION MATERIALS</b>	<b>Drive alternative material use</b>  Increase the demand for sustainably sourced and procured materials and products which preserve biological diversity in nature, whilst ensuring it sustains economic viability.	National Government and Local Authorities	<b>Has a centralised material database been established?</b>	Yes / No	National government establishes a nationwide material database, building on city-level networks, to reflect the latest material information available. Additionally, pre-demolition and pre-redevelopment surveys are introduced nationally, to identify building products and parts for reuse and recycling, with local authorities providing locations where they can be stored.	Planning
		Manufacturers	<b>Are digital material passports available for all building materials, products and parts?</b>	Yes / No	Manufacturers provide digital material passports for all materials and products, in alignment with best practice guidelines to facilitate the procurement and specification of (circular) materials and products and the development of a material inventory for a project.	Manufacturing
		Developers and Architects	<b>Has circular performance-based procurement criteria been included in contract specifications?</b>	Yes / No	Developers and architects examine the use of material passports on projects and engage early with contractors and manufacturers to incorporate circular performance-based procurement criteria (e.g. design for reuse, avoiding the use of raw materials through the inclusion of reused materials and recycled content) into contract specification documentation.	Planning & Design
		Quantity Surveyor and Design Team	<b>Does the cost analysis identify cost-saving opportunities for the project when alternative or regenerative materials and products are procured?</b>	Yes / No	All stakeholders share material use information with the quantity surveyor (QS) and identify cost-saving opportunities for the project i.e. cost benefit of material reuse. This is factored into the overall cost analysis by the quantity surveyor and the information demonstrates energy and carbon savings. The output from the QS and design team includes targets for alternative material use, and on previously developed sites, a comparison between reusing the entire asset versus reusing building parts is provided.	Planning & Design
	<b>Reduce the consumption of resources</b>  Materials that are part of existing buildings and infrastructure are considered resources for the built assets of tomorrow. Avoiding the production and use of new building materials, as well as prioritising retrofit and adaptation over the construction of new built assets, is key to reducing emissions from the sector and implementing a circular economy.	National Government	<b>Has an extended producer responsibility policy been developed?</b>	Yes / No	National government develops an extended producer responsibility policy ensuring take-back schemes and Product as a Service (PAAS) initiatives are in place.	Planning
		Manufacturers and Contractors	<b>Have take-back schemes been created for the refurbishment, recycling and the resale of building products?</b>	Yes / No	Manufacturers and contractors create takeback schemes for the refurbishment, recycling and the resale of building materials, products and parts or work with third parties locally to provide these services.	Manufacturing
		Developers and Contractors	<b>Has a material inventory been created for the asset? If not, has a pre-refurbishment/ pre-demolition audit been conducted?</b>	Yes / No	Developers prioritise the reuse of existing building structures, wherever possible, and start the process of commissioning a pre-refurbishment/ pre-demolition audit, if a material inventory has not been prepared for the building. Pre-demolition surveys are key to identifying reuse and retention opportunities. Contractors carry out detailed pre-refurbishment and pre-demolition audits, to ensure that existing materials can be kept at their highest value.	Design & Retrofit
		Design Team and Contractors	<b>Does the Operation &amp; Maintenance manual include technical guidance for an asset's refurbishment and deconstruction?</b>	Yes / No	The proposed asset refurbishment and deconstruction methodology is included in the Operation & Maintenance manual, along with a material inventory listing and providing data and documentation (material passports) for all building materials, products and parts. Documentation is handed over to facility management, owners, and occupiers at the end of the construction stage and updated throughout the building's life.	Design & Construction
	<b>Localise the supply chain</b>  Localising the supply chain and procuring materials and products close to site represents an opportunity to reduce embodied carbon of any built asset and stimulate the local economy	Local Authorities and Developers	<b>Have local authorities and developers worked together with supply chains to collate information on material availability and storage?</b>	Yes / No	Local authorities and developers work together with supply chains in order to drive the growth of circular services and products (i.e. PAAS and material take-back schemes). Local authorities collate information on material availability and storage, as part of a public database illustrating supply potential.	Planning & Design
		Quantity Surveyor, Design Team and Contractors	<b>Has local sourcing been prioritised based on availability, considering material passports and LCAs, when materials and products are procured?</b>	Yes / No	Quantity surveyor and design teams produce technical specifications that prioritise procuring building materials and products locally. Contractors work with the supply chain to identify opportunities for procuring reused materials and ensure products are installed to enable future reuse.	Planning, Design & Construction
		Manufacturers and Contractors	<b>Have embodied carbon reduction plans for products and operations been developed?</b>	Yes / No	Material manufacturers develop embodied carbon reduction plans for their products and operations, focusing on reducing materials, energy usage, manufacturing waste, and transport needs. Contractors work with their material manufacturers and supply chains to set carbon intensity reduction targets, require mandatory disclosure of supply chain data, and track and reduce construction site emissions. Carbon is evaluated alongside cost in all value engineering exercises.	Manufacturing

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DESIGN AND RETROFIT	<b>Challenge short-term thinking</b>  All stakeholders including policymakers, investors, clients, developers and design teams must take a longer-term view, considering the past, present and future use of a building's products and components – including how to procure, maintain and retain their value and usefulness over multiple lifetimes	National Government and Local Authorities	Has a national circular economy planning framework policy been developed?	Yes / No	A national circular economy planning framework policy is developed, and national government incentivises the use of circular design principles, and works with local authorities to support further policy development.	Planning
		Asset Owners	Have Whole Life Carbon targets been set within contracts and has progress been monitored at every building stage?	Yes / No	Clients set out clear Whole Life Carbon targets and evaluate circular economy approaches using circularity-related metrics (e.g. the reduction in raw material use, construction waste to landfill, use of alternative or secondary materials and biodiversity on site).	At every building stage
		Developers and Architects	Have circular performance-based procurement criteria been included in contract specifications?	Yes / No	Developers and architects examine the use of material passports on projects and engage early with contractors and manufacturers to incorporate circular performance-based procurement criteria (e.g. design for reuse, avoiding the use of raw materials through the inclusion or reused and recycled content) into contract specification documentation.	Planning & Design
	<b>Design for building reuse, disassembly and deconstruction</b>  Design must consciously facilitate the longer functional use and ease of maintenance of building products and parts to keep them at a high value over multiple lifetimes. Modularity is a key component of design in a circular built environment, as standardised building parts are easier to repair and maintain, disassemble and relocate or refurbish for reuse. Designing for disassembly and deconstruction should create buildings that function as material banks and eliminate waste.	Investors	Have the benefits of implementing circular economy approaches been conveyed to asset owners?	Yes / No	Financial sector agents engage with the local authorities to support and promote the implementation of circular principles in construction projects. Investors and agents understand and report on the benefits of a zero-to-landfill approach, building reuse, design for disassembly, and recycling.	Planning
		Developers, Clients, Contractors and Design Team	Have demolition contractors or deconstruction experts been appointed as part of the design team? If yes, has the contractor conducted a pre-refurbishment or pre-demolition audit?	Yes / No	Clients appoint demolition contractors or deconstruction experts as part of the design team, early enough so pre-refurbishment or pre-demolition audits can be considered. Structural engineers proactively identify opportunities to utilise reused structural elements and identify opportunities to design for disassembly. Contractors carry out detailed pre-refurbishment or pre-demolition audits to ensure that existing materials can be kept at their highest value. The demolition/refurbishment contractor reviews the material inventory data and provides comments and updates. The products and materials identified for reuse within the development are specified to be carefully disassembled and stored. Developers ensure the programme planning allows for materials to be removed, stored, and retrieved for reuse.	Planning, Design & Construction
		Developers and Architects	Have material passports been examined for the project considering end-of-life options?	Yes / No	Developers and architects examine the use of material passports on projects to make materials and products easily identifiable and traceable when disassembling buildings or for future fit-outs. The material inventory is developed and updated to inform design teams of future material availability. This principle can also be applied to refurbishment projects, storing data so that deconstructed elements can be used in the near future.	Planning, Design & Construction
		Asset Owners, Facilities Managers and Occupiers	Do contractual requirements related to acquisition, ownership and rental, such as green leases, include clauses related to circular economy approaches?	Yes / No	Owners should embrace green contracts and leases for their assets. These might include clauses on fit-out, waste avoidance, restrictions on material selection, or responsibilities for deconstruction at the end of the lease. Based on a green lease and tenancy agreement, the tenant must notify the facilities manager of any changes that will be made to the building during the lease.	Operation, Retrofit, Recycling and Deconstruction
	<b>Design out waste</b>  Develop strategies to prevent unnecessary waste generation by creating a zero-to-landfill plan with specific, measurable and achievable targets.	Owner, Design Team and Demolition Contractors	Has a zero-to-landfill approach been targeted and adopted across all stages of the building lifecycle?	Yes / No	Owner, design team and contractors target and adopt a zero-to-landfill approach across all stages of the building lifecycle and the demolition contractors recover products and building parts for reuse as identified in the contract documents.	At every building stage

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REGENERATE NATURE	<b>Gain inspiration from nature</b> Nothing is wasted in nature. By implementing nature-based solutions our cities can close material loops while restoring the relationship between cities and natural systems	National Government and Local Authorities	<b>Have biodiversity-enhancing policies been established with incentives to implement circular design approaches and nature-based solutions?</b>	Yes / No	National government and local authorities establish biodiversity-enhancing policies which incentivises the use of circular design principles and the implementation of nature-based solutions.	Planning
		Asset Owners, Design Teams and Contractors	<b>Are biodiversity-enhancing nature-based solutions and circular design approaches implemented?</b>	Yes / No	Asset owners, design teams and contractors adopt circular economy design principles and construction processes to implement nature-based solutions, for residential, commercial, and major infrastructure projects (e.g. green corridors in cities).	Design & Construction
	<b>Protect water resources</b> Promote water efficiency and quality at all stages of the building lifecycle, and include water use within the reporting conducted during a building's construction and operation phases.	Owner, Design Team and Contractors	<b>Has a net-zero water approach been targeted and adopted?</b>	Yes / No	Owner, design team and contractors target and adopt a net-zero water approach for all stages of building (i.e. a net zero water building, constructed or renovated, is designed to: i) minimise total water consumption; ii) maximise alternative water sources; and iii) minimise wastewater discharge from the building and return water to the original water source.	At every building stage
LEVERS FOR CHANGE	<b>Implement new business models</b> Innovative new business models (eg. product as a service) can increase the utilisation of underused products, components and buildings.	Investors, National Government, Local Authorities, Clients and Developers	<b>Have circular business model approaches, that recover, reuse or recycle materials and products, been adopted within local supply chains?</b>	Yes / No	Investors report on the benefits of circular economy approaches including the potential for competitive returns while reducing waste, preserving natural resources, and addressing climate change. Investors explore, with legal teams, contract arrangements to address risk related to circular business models (e.g. challenges with using alternative or regenerative materials). National government and local authorities strengthen policy frameworks to mobilise private finance and investment in support of circularity. Clients and developers adopt new circular business model approaches (such as PAAS and take-back schemes) and evaluate circular economy criteria at each building stage.	Planning and at every building stage
	<b>Improve data availability and reporting</b> Participation in circular value chains should be incentivised and taken into account through Environmental, Social and Governance (ESG) reporting and assessment of Scope 3 emissions.	Clients, Design Team and Contractors	<b>Are circularity-related metrics included within ESG reporting? (e.g. reduction in raw material use, waste, water use and alternative material use)</b>	Yes / No	Clients, design team and contractors report on circularity-related metrics within ESG reporting. This data assists investors to align with new sustainable finance regulations (e.g TCFD, SFDR) and all stakeholders involved work towards a consistent ESG reporting format to allow for comparable data and reporting.	At every building stage
	<b>Evolve certification and labelling schemes</b> Certification and labelling schemes should provide the appropriate guidance and indicators to align with circularity principles.	All Stakeholders	<b>Are updated material datasets available for use in certification and labelling schemes?</b>	Yes / No	National government and local authorities enable material data (including whole life carbon data) to be collected and included within a centralised database, supporting the industry in measuring and reporting on circularity. Certification and labelling schemes are continually updated to assess circularity-related metrics and indicators. All stakeholders increase data transparency and improve certifications schemes when centralised databases are utilised. However, data ownership will vary across each stakeholder and collaboration across the value chain will be required.	At every building stage
	<b>Upskill, educate, collaborate and build partnerships</b> Globally, addressing existing gaps in education and skills development will be crucial as the circular economy is a concept that requires all stakeholders to think and act differently.	Owner, Design Team and Contractors	<b>Have net zero skills and training plans been implemented?</b>	Yes / No	Owner, design team and contractors adopt net zero (waste, water, carbon and ecology) skills and training plans supported by professional institutions. This should also include circular economy design principles and retrofit competency requirements, and applies to all built environment stakeholders, not just sustainability professionals.	Planning and at every building stage
All stakeholders		<b>Have best practice examples and challenges been shared so the industry can learn how different circular economy processes (e.g. procurement of reused materials) can happen?</b>	Yes / No	All stakeholders, including developers, owners, design team and contractors, explore models for collaboration, where partnerships facilitate a knowledge sharing process that allows for transparency so that the industry can learn how different circular economy processes (e.g. procurement of reused materials) can happen.	At every building stage	