

The Republic, Mayfield

Circular Economy Statement



Table of Contents

1. Introduction.....	2
2. Policy Context	3
2.1 Local Planning Policy.....	3
2.2 Best Practice Guidance	5
2.3 Key Objectives and Targets	7
3. Circular Economy Statement	8
3.1 Circular Economy Principles	8
3.2 Circular Economy at The Republic, Mayfield.....	8
4. Circular Economy Monitoring Framework	10
5. Conclusion	11

1. Introduction

Lendlease's mission to create thriving communities is guided by our robust Sustainability framework. Central to this framework are two imperatives, *Sustainable Economic Growth*, and *Vibrant and Resilient Communities and Cities*, which together, form the foundation of the proposed Circular Economy measures. Our approach to both Design and Construction are considered as critical phases throughout which, Circularity will be integrated.

This statement is an outline of the Circular Economy strategy that will be implemented when undertaking the development of The Republic project, Plot M, as part of the Mayfield Park Regeneration in Manchester (hereafter referred to as "The Republic" or "the Site").

This statement is proposed as an explanation of how Lendlease's commitment to circularity will be demonstrated and describes how the project will reduce its carbon emissions and waste footprint through the principles of Circular Economy, in line with local and national guidance.

2. Policy Context

2.1 Local Planning Policy

2.1.1 Manchester Core Strategy (July 2012)

Manchester's Core Strategy was adopted on the 11 July 2012 and is the key document in the Manchester Local Plan. It was updated in March 2024, after the Places for Everyone Joint Development Plan was adopted. It sets out the long-term strategic policies for Manchester's future development and will form the framework that planning applications will be assessed against.

Although none of the Policies in the Core Strategy refer directly to Circular Economy, there are two policies which align, in principle, with the Circularity Approach and are therefore considered pertinent to the establishment of this statement:

- Policy EN4: Reducing CO2 emissions by enabling Low and Zero Carbon development (including addendum PfE Policy JP-S2)

This policy establishes the requirement for reducing CO2 emissions by encouraging use of renewable materials and high recycled content materials.

- Policy EN19: Waste

This policy establishes the requirement for development to adhere to the Waste hierarchy principles, which prevent waste in the first instance.

2.1.2 Greater Manchester Joint Waste Development Plan (April 2012)

Greater Manchester has the largest population of any sub-region within the Northwest and is the largest producer of waste for all streams, including, municipal waste, commercial and industrial, construction and demolition and hazardous waste. The objective of this plan is to set out a sustainable waste strategy that minimises waste at source, and reduces associated GHG emissions, to support climate change mitigation.

2.1.3 Places for Everyone Joint Development Plan (March 2024)

This plan is in place for the period 2022 – 2039 and was adopted in March 2024. It sets out the criteria for development across 9 districts, including Manchester. The plan focusses on bringing about affordable housing, better jobs and transport, and bringing about sustainable development of town centres.

- Policy JP-S1: Sustainable Development

This policy details the requirement for new developments to maximise economic, social and environmental benefits simultaneously, whilst minimising the adverse impacts of development and utilising sustainable construction techniques.

- Policy JP-S2: Carbon and Energy

This policy establishes the objective of delivering a carbon neutral Greater Manchester no later than 2038 by prescribing measures to reduce greenhouse gas emissions

including the use of life cycle costing and carbon assessment tools to ensure the long-term impacts of development can be captured.

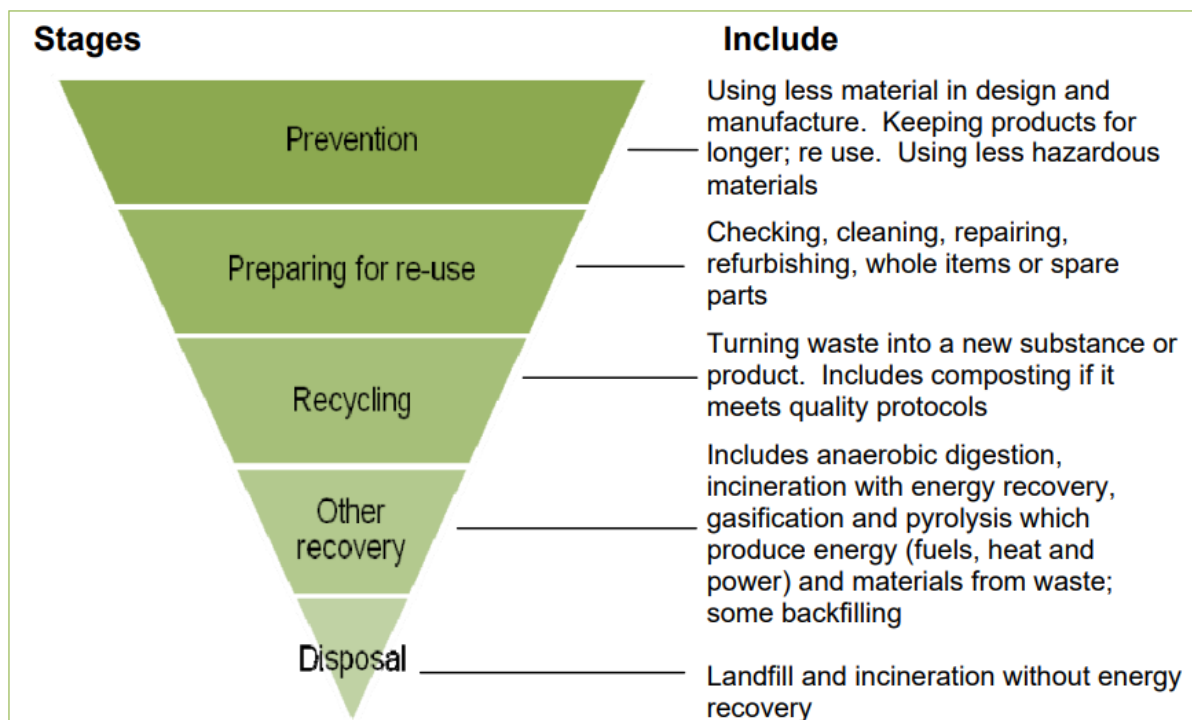
- Policy JP-S6: Resource Efficiency

This policy establishes the objective of creating a circular, zero waste economy. The focus of this policy is to extract maximum value from materials. There is a clear focus on using sustainable design and construction techniques to reduce carbon emissions, adapt and future proof to the impact of climate change, reduce and recycle waste and minimise water use.

2.2 Best Practice Guidance

2.2.1 DEFRA Guidance

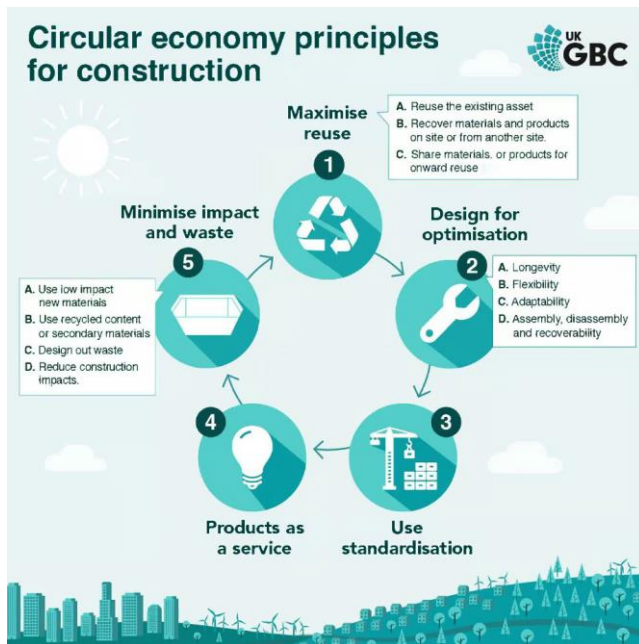
The DEFRA Guidance on Applying the Waste Hierarchy (June 2011) document provides a framework for the most preferable waste management options according to processes which extract the greatest value from materials. It gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all, disposal.



Source: www.defra.gov.uk

2.2.2 UK Green Building Council

In April 2019 the UK Green Building Council issued the Circular Economy Guidance for Construction Clients, which provides advice about how to practically apply circular design and construction principles at the project brief stage. The guidance focusses primarily on RIBA stages 1 & 2 “Preparation and Brief” and “Concept Design”, and details the implications of adopting circular design principles, and the specification of circular principles within the project brief. The document is presented as an aid to circular thinking to improve sustainability performance.



Source: www.ukgbc.org

2.2.3 WRAP Designing out Waste Guidance

WRAP has produced a suite of tools to help designers to identify, quantify and record opportunities to Design out Waste. The WRAP Designing out Waste Guidance sets out five principles of Designing out Waste: Design for Reuse and Recovery, Design for Off-Site Construction, Design for Materials Optimisation, Design for Waste Efficient Procurement and Design for Deconstruction and Flexibility.

2.2.4 Greater Manchester Sustainable Consumption and Production Plan 2022-2025

The GMSCPP forms a framework for circularity within the Greater Manchester Region and recognises the need to keep products and materials in use for longer to reduce pressure on the natural environment. In order to do so, it highlights some high-level decisions that can be taken to increase the lifespan of materials. More specific guidance is given in the Mayor of London Circular Economy Guidance.

2.2.5 Mayor of London Circular Economy Guidance

This guidance provides a Decision Tree for Design Approaches for new buildings, which can be applied within and outside of London. The process guides Design professionals on the optimal circular design approach (Adaptability, Flexibility, Replaceability, Disassembly etc), contingent on development requirements.

2.3 Key Objectives and Targets

The Circular Economy Strategy for The Republic has been set out in line with Circular Economy principles, and in accordance with Manchester local planning policy.

During construction of The Republic, strategy will be developed to ensure waste prevention and minimisation ideas are developed and that design solutions are technically/commercially viable.

Conserve resources as much as possible, in line with sustainable construction methods. Excavated material from construction will be reused onsite or offsite as much as possible. Opportunity on reusing reclaimed materials from the Site or near-by site will be explored. Optimisation on structural design and prefabrication options will be investigated during design stage. Robust and durable materials will be considered in the building to minimise the frequency of in-use replacement or maintenance.

Best practices in waste management and resources efficiency will be implemented during construction. Minimise wastage of all applicable materials in line with the waste hierarchy (prevent, reuse, recycle, recover). Active engagement with the supply chain can ensure best practice opportunities could be captured and implemented.

2.3.1 Environmental Assessment Mechanisms

The BRE Environmental Assessment Method (BREEAM) is a mechanism for assessing environmental design and construction for buildings. The certification is representative of development which achieves high standards in environmental, social, and economic sustainability performance. The issues under BREEAM that are currently assessed are grouped into eight categories (Management, Health and Wellbeing, Energy, Transport, Water Consumption, Materials, Land Use and Ecology, and Pollution).

The Republic is targeting BREEAM 'Outstanding' rating under Non-domestic New Construction 2018 – Office scheme.

Through pursuit of the BREEAM criteria, the design of The Republic will broadly address the principles of the circular economy in these areas, particularly those relating to materials and waste. The following credits have been identified as setting out best practice in response to circular economy principles:

- Man 02 Life Cycle Cost and Services Life Planning;
- Man 03 Responsible Construction Practices;
- Wat 01 Water Consumption;
- Wat 02 Water Monitoring;
- Wat 03 Water Leak Detection;
- Wat 04 Water Efficient Equipment;
- Mat 01 Life Cycle Impacts;
- Mat 03 Responsible Sourcing of Materials;
- Mat 05 Designing for Durability and Resilience;
- Mat 06 Material Efficiency;
- Wst 01 Construction Waste Management;
- Wst 03 Operational Waste;
- Wst 06 Design for Disassembly and Adaptability; and
- LE 01 Site Selection.

3. Circular Economy Statement

3.1 Circular Economy Principles

Circular Economy (CE) is an approach to resource management, which challenges the traditional, linear model. The underlying principle of CE is to prevent the necessity of consuming finite resources, by utilising the maximum value available from available materials.

Where the linear model permits the extraction of raw materials at a rate that is faster than they can be replenished, the CE model advocates reintroducing redundant materials into a new product lifecycle.

Where the linear model advocates a “take, use, dispose” logic, the alternative CE principle proposes a “re-make, use-again” concept, a more systematic approach which ultimately reduces demand on resources, and results in a reduced carbon footprint.

3.2 Circular Economy at The Republic, Mayfield

This Statement has been prepared in line with international and national best practice and aims to reflect the following key principles of circular economy (CE), which have been included within the design of the development.

3.2.1 Materials

The project team have made conscious decisions during the design stage to ensure that materials will be procured / obtained in such a way that the demand for materials is reduced to a minimal viable level. Resource efficiency will be implemented in the following ways:

- Maximise reuse of site-won or reclaimed material from site or near-by site;
- Optimisation on structural design and prefabrication options will be investigated during design stage;
- Robust and durable materials will be considered in the building to minimise the frequency of replacement or maintenance;
- Sustainably sourced HVO fuel, with used cooking oil as the preferred feedstock;
- Locally sourced construction materials as the preferred option;
- Procure FSC-certified timber;
- Use of components, products, and materials with take-back schemes, EPDs or certifications;
- Installation of water efficient sanitaryware to reduce water consumption; and
- Building fabric and services design of the building to improve energy efficiency.

3.2.2 Design Approaches and Circular Economy Design Principles

The building is anticipated to have a long life on the Site, however, the possibility of reuse of components and materials will be investigated during design. Commercial spaces will be designed for flexibility, allowing reconfiguration of the units to meet future needs.

Maintenance and replacement requirements will also be considered in the design of the building to ensure ease and minimum maintenance during in-use stage.

Prefabrication methods with materials with reused and recycled content will be explored. Building fabric and services of the buildings shall be designed for high energy efficiency to achieve lower building operational CO₂ emissions.

3.2.3 Waste

The project team will look at opportunities in waste minimisation and increase the recycle and recovery rates as much as possible. Early and continuously engagement with supply chain to adopt best practices in the industry and work closely with the design team to look at opportunities on design out waste in different packages. Considerations include, but are not limited to, prefabrication, adopting reusable/recyclable materials, minimise packaging.

Site management will also work with logistics to ensure proper material storage on site and proper waste segregation on site will be provided to avoid any unnecessary damage to delivered materials and increase the recovery rate of waste.

Best effort shall be put to minimise waste generation during construction stage. Target at least 98% of waste diversion from landfill for any unavoidable waste generated during construction stage.

A Resources Management Plan will be produced to detail the waste management strategy and procedures during construction. The document will detail waste reduction initiatives, waste segregation, waste recovery and waste disposal.

Continuous review on waste performance to ensure continuous improvement and appropriate mitigation could be adopted.

4. Circular Economy Monitoring Framework

The table below sets out how the Site targets and objects could be achieved.

Target / Objectives	Actions Required	Project Stages	Responsible
Reduce / Minimise demand for materials / raw materials	- Engage with supply chain to investigate options on optimisation building design and prefabrication - Analyse and engage with supply chain on sourcing materials with high recycled content	Pre-construction & Construction	Developer / Main Contractor
Responsibly and sustainably sourced materials	- Analyse and engage with supply chain on sourcing low carbon materials - Request Environmental Product Declaration (EPD) from supply chain	Pre-construction & Construction	Developer / Main Contractor
Reduce / Minimise waste generation during construction	- Establish a Resources Management Plan detailing the waste management and resources management strategy - Waste target and performance to be communicated with the supply chain	Construction	Main Contractor
Meeting future operational needs (e.g. reconfiguration, alteration)	- Assess and design for adaptability and flexibility in the building for future alternation - Building user guides to be provided with in-use refurbishment guidance at handover	Pre-construction, Construction & Post-construction	Developer / Main Contractor / Building Operator
Reduce replacement and maintenance need during operation	- Design and select robust and durable materials - Building user guides with maintenance information and trainings for building operator could help elongate the lifespan of materials and plants.	Pre-construction, Construction & Post-construction	Developer / Main Contractor / Building Operator

5. Conclusion

Circular Economy principle will be applied to the Site through a collaborative, cross-disciplinary approach. The Site will embed sustainable procurement, sustainable practice and waste reduction within the project and address local requirements through of the following:

Materials:

- Reduce demand for materials and raw materials extraction, e.g. optimisation in structural design, high recycled content;
- Reduce demand of other resources, e.g. water, energy; and
- Source materials responsibly and sustainably, e.g. EPD, low carbon.

Design:

- Design for longevity, adaptability / flexibility and reusability;

Waste Management:

- Reduce waste generation from construction activities; and
- Reduce waste generation from in-use maintenance / replacement.

The Site will achieve the above by implementing the following measures:

- Maximise the procurement of high-recycled content, low carbon materials as much as possible;
- Incorporate energy efficient design in the building fabric and services and water efficient equipment;
- Design for longevity, flexibility and adaptability to enhance building life-span and reduce the need of in-use maintenance and replacement;
- Implement waste management and resources management strategy and adopt best practices during construction stage to reduce waste generation; and
- Handover document with maintenance and refurbishment guidance to elongate materials life-span and minimise operational waste.

In conclusion, The Republic project, Plot M, development is aligned with the principles of Circular Economy, accords with national best practice, and supports the vision for Manchester City to become a zero-waste city in the near future.