BS 8544:2013

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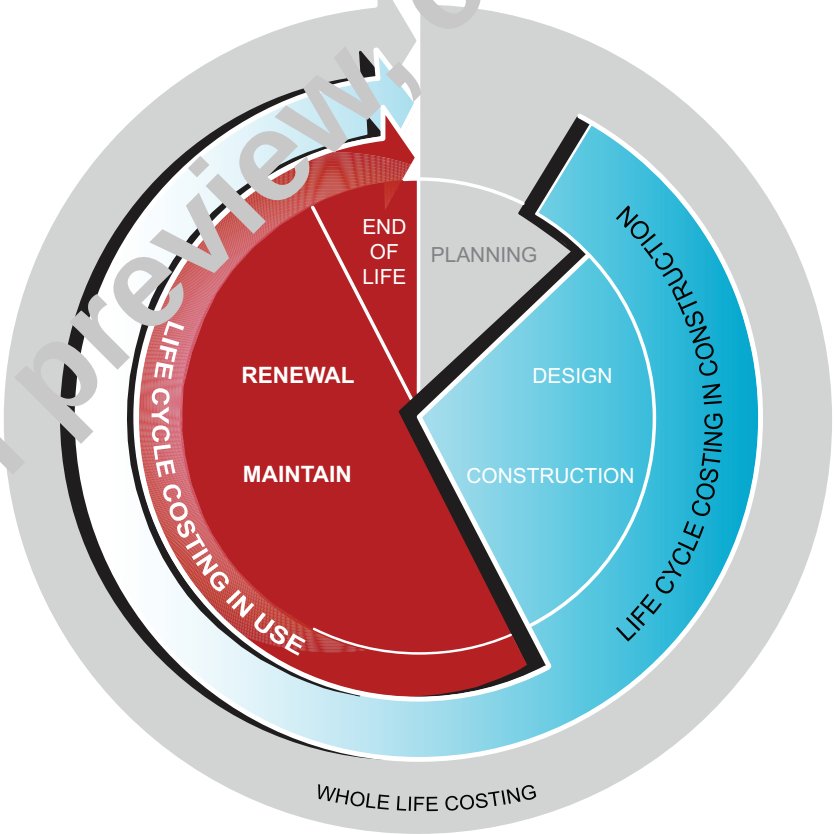
Guide for life cycle costing of maintenance during the in use phases of buildings



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Contents

Summary of pages
This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 96, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 September 2013. It was prepared by Technical Committee CB/101, *Service life planning*. A list of organizations represented on this committee can be obtained on request to its secretary.

The initial drafting of this British Standard was produced in association with BIS as part of their ongoing programme of support for standardization.

Relationship with other publications

This British Standard is the second supplementary guide to BS ISO 15686-5. The first supplementary guide is PD 156865, which covers the life cycle cost planning construction projects.

Information about this document

The guidance in this British Standard is aligned with industry cost planning data structures and methodology given in the RICS *New Rules of Measurement* (NRM) 1 [1].

This British Standard gives an approach to life cycle costing that places the focus on maintenance costs.

Clause **4** and Clause **5** describe the integrated LCC processes, key stages and the guiding principles and instructions for undertaking LCC of maintenance works. Clause **5** details how to undertake the cyclical process of LCC of maintenance through each of its stages and how this can be periodically updated throughout the in use phases of a building, facility or constructed asset. Clause **6** describes various methods, rules and techniques used in the process to agree the brief and subsequently plan, capture, evaluate, implement and review the LCC for maintenance works. Clause **7** categorizes and defines which maintenance costs to include or exclude and how to express them; it also provides a maintenance breakdown structure and cost categorization definitions. Clause **8** provides guidance on how the building data should be structured and classified to be interoperable with BIM data exchange formats. Clause **9** gives advice regarding the applicable information sources and data required to cost maintain and renew works during the in use phases. Clause **10** provides practical guidance on how to inform the decision-making processes; it also helps the user to input information into other economic evaluations relating to wider property estate asset management and maintenance strategies.

Use of this document

As a guide, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification or a code of practice and claims of compliance cannot be made to it.

Presentational conventions

The guidance in this standard is presented in roman (i.e. upright) type. Any recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

0 Introduction

The objectives of this British Standard are to provide:

a) standardized rules and a methodology for the life cycle costing (LCC) of maintenance during in use phases that fully integrate the process of creating and implementing two plans: maintain and renewal;

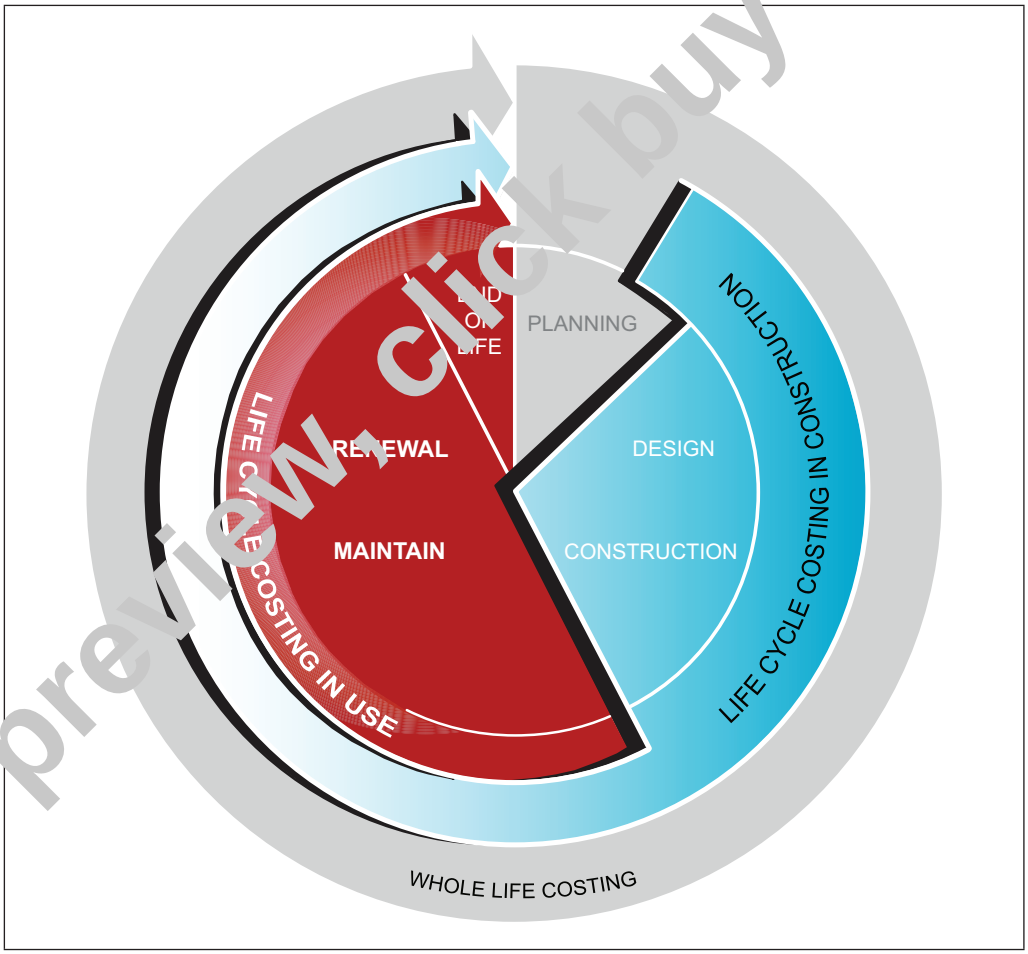
*NOTE In this British Standard the term "in use" (see **3.1.26**) covers the life cycle period after handover and prior to decommissioning; this is highlighted in Figure 1, which also shows its relationship to other cost headings within whole life costing.*

b) guidance on how to capture the appropriate asset information required for specific LCC outcomes;

c) guidance on how to evaluate and prioritize the maintenance works when carrying out budgeting and funding scenarios;

d) guidance on the implement stage of LCC management of maintenance works.

Figure 1 **Life cycle costing during the various phases of a facility's life**



An overview of the key stages of life cycle costing of maintenance (see Figure 2) and their purpose is as follows:

1) brief: to define the scope and specific requirements for each of the typical LCC applications and plan the process of LCC of annualized maintenance (maintain) and forecasting the renewal programmes;

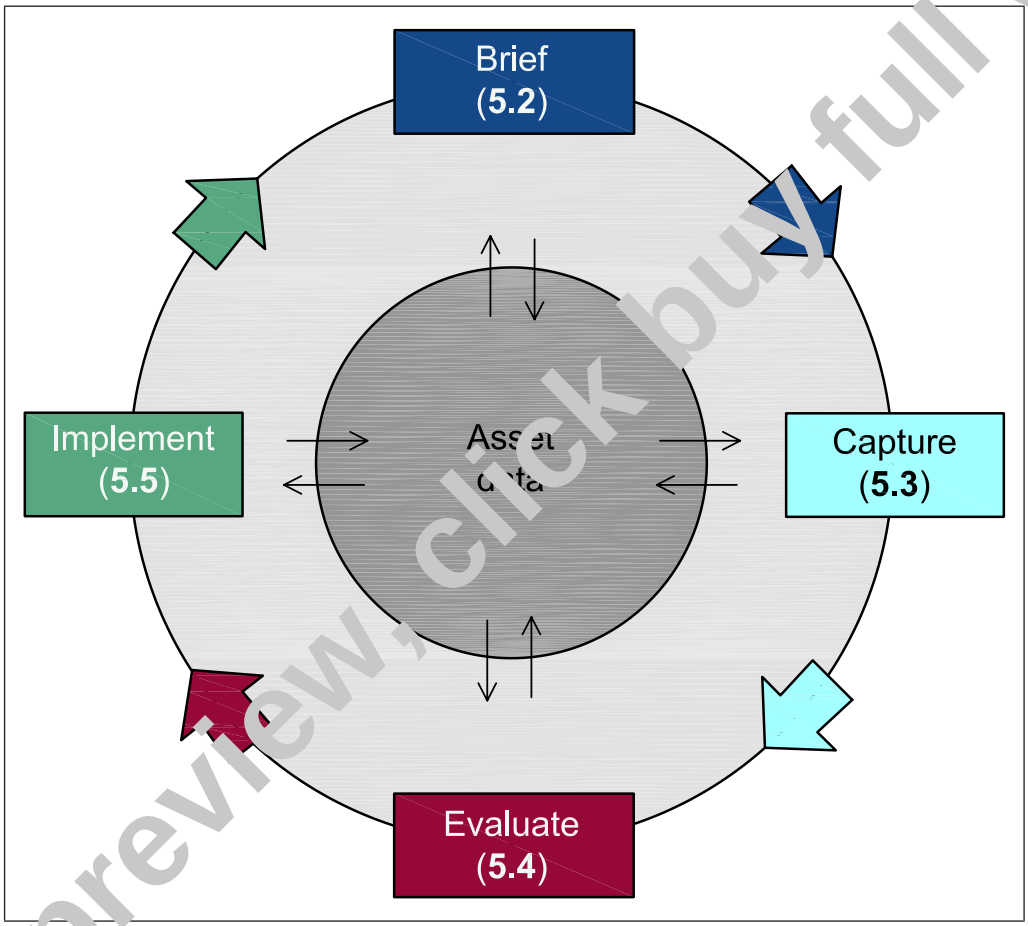
2) capture: to record the relevant data required to generate and update annualized maintenance (maintain) and/or life cycle renewal cost programmes, based on various forms of assessments;

3) evaluate: to inform budget setting and fund modelling by optimizing the planned maintain works and the renewal works cost programmes of work, including how to targeting and defend the maintenance and investment planning outputs;

4) implement: to schedule, tender, implement and cost manage works, including monitoring, auditing and reviewing the maintenance and renewal works cost expenditure against budget limits.

The context of the proposed application of LCC of maintenance is relevant to each stage given in 1) to 4).

Figure 2 **Key stages of life cycle costing of maintenance**



1 Scope

This British Standard gives guidance and recommendations on undertaking LCC of maintenance during the in use phases of facilities or constructed assets. It covers buildings, systems, assemblies, components, tasks/actions, resources and materials.

*NOTE 1 The guidance covers maintenance planning during the in use (see **3.1.26**) phases of a facility's life cycle.*

This British Standard also gives guidance and recommendations on the planning and prioritization, budget-setting, optimization, implementation and monitoring of life cycle programmes of maintain and/or renewal works.

The guidance includes asset surveys and employer's maintenance management aspects of operation (as defined in BS ISO 15686-5) that are needed to plan and manage maintenance delivery including life cycle works.