CESA
Consulting Engineers South Africa

Management System Declarations (MSDs)

Project Sustainability Management System (PSM)

November 2021

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MSDs
Project Sustainability Management System (PSM)

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- Certification
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Overview: FIDIC Project Sustainability Management (PSM) - Applications Manual - 2nd edition 2013

OBJECTIVES

- ***To provide:***
  - a definition of sustainable development and context for PSM.
  - core issues that engineers should consider when carrying out projects in a sustainable way, backed up by several processes for broad inclusion of stakeholder input.

- ***To outline:***
  - sustainability considerations which constitutes a Project Sustainability Management System for consulting engineering firms
  - the steps to follow to initiate the development of a Project Sustainability Management System in a consulting firm

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Overview: Project Sustainability Management MSD

Overview of the Project Sustainability MSD

The PSM Declaration intends to provide:

1. Members an opportunity to confirm if they have any sustainability **or** environmental certifications. **AND**
2. Members an opportunity to confirm that they have a PSM in place. **AND**
3. Guidance on what aspects should be considered to have a well rounded PSM.

The MSD has **9 questions** (*these will be discussed further on)* which require a **YES / NO answer**.

If YES, the member firm is to ensure that the documentation can be provided to CESA upon request for adhoc verification reviews. The documentation **DOES NOT** need to be uploaded when completing the MSD.

Should the member firm claim a question as **'Not Applicable', justification is required to be provided**.

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Certification

Sustainability or Environmental Certification

- Opportunity to provide information on **ANY** sustainability or environmental certification which your organisation may have achieved.

CERTIFICATION
Has your organisation been certified by an independent body to a set of internationally recognised sustainability management requirements?
If yes: * please submit the certification; **AND** * In addition to answering the questions in the declarationprovide the following information:.
1. Name of international requirements or standard (e.g. ISO, GRI etc.)
2. Name of independent certification body
3. Certificate Registration Number (if available)
4. Validity from (insert issue date YYYY-MM-DD) to (insert expiration date YYYY-MM-DD) (if applicable)
5. Date of first certification

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Main Sections of the PSM – MSD Questions

Leadership and Planning – 3 questions

- Strategy, Policy and Objectives, Risk and Opportunity, Roles and Responsibilities, Training

Project Delivery Stages 1 to 6 – 6 questions

- Defining requirements, targets, planning, risk, reviews, change management ,record keeping
  - **Stage 1 : Inception** – *consultation*
  - **Stage 2: Concept & Viability** - *establish targets to achieve objectives*
  - **Stage 3: Design Development** – *implementation*
  - **Stage 4 & 5: Documentation, Procurement, Contract Administration and Construction** – *Awareness*
  - **Stage 6: Project Close** – *Design share to ensure efficient performance and enable monitoring*

NOTE: *The Project Sustainability Policy is PROJECT related and is required to be applicable to the overall project system and phases. This means that the policy should be able to be applied to every single project, including various stages of the project.*

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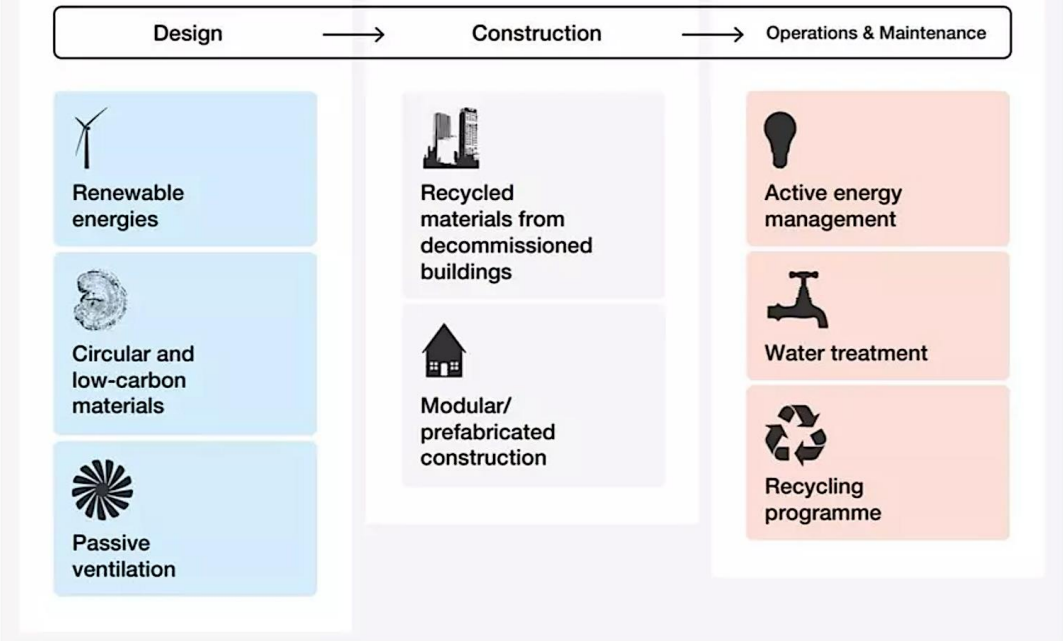
EXAMPLE OF SUSTAINABILITY MEASURES DURING PHASES OF PROJECT LIFE CYCLE TO ACHIEVE NET ZERO CARBON GOALS



Future of Real Estate: Solutions exist, driven by digitalization to address decarbonization.

Image: World Economic Forum

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Benefits of implementing a PSM system

FUTURE PROOFING

Setting targets and goals which align with a global agenda ensuring that your business and projects are future proofed.

CLIMATE RESILIENCE

Climate change sees increased risks in projects and developments. Risk mitigation required planning and adaptation.

WIN MORE WORK

More and more clients are asking for sustainability and environmental designs due to increased global and national pressure to meet agendas (COP, UNSDGs, etc.)

COST REDUCTION

Plan to use fewer resources such as energy and water during construction. Waste and cost reduction by reusing and recycling material.

NEW MARKET IS EMERGING

Sustainable building has helped the market evolve over the past 15 years and is unlocking new possibilities and opportunities.

PROJECT PRESERVATION

Sustainable practices in project management and construction ensure environmental conservation and the wellbeing of the communities in which projects are executed..

Benefits of implementing a PSM system

COMPETITIVE ADVANTAGE

The adoption of sustainability practices allows projects to rank highly; therefore, they are more likely to be considered by clients, investors and stakeholders.

OVERALL SUCCESS

Project Sustainability Management ensures that the economic, social, and environmental aims of project are fully achieved.

MINIMISES RESOURCE MISMANAGEMENT

PSM ensures that the project management process is conducted according to the initial plans.

ENHANCED PROJECT QUALITY

Sustainability enhances project quality, especially in terms of the materials and resources used in project execution and thus decreasing project depreciation.

INCREASE ORGANISATIONAL VALUE

Improves customer loyalty, motivates employees, and boosts their morale and productivity. This is valuable as it improves supply chain outcomes, fosters organizational development, and improves the general operational performance and long-term organizational efficiencies

ROOM FOR INNOVATION

Excellent opportunity for creative experimentation in the industry. ***New materials are being used and as a result, more innovative techniques are being developed and implemented, such as the case study example.***

Case Study – Bridges of Laminated Timber (BoLT)

A Truly Long Life, Loose Fit, Low Energy Bridge

- Circular Economy timber bridge design **showcased in COP26's 'Build Better Now' exhibition**
- Amsterdam, Netherlands – Europe.
- Designer and Engineer: **ARUP (CESA Member Firm)**
- **BoLT conceived for bridges with span of 25 metres. Uses high-quality cross-laminated timber (CLT) for bridge deck, protected with waterproof membrane and asphalt deck and glued laminated timber(GLT) for the main beams**. Can be applied to new construction or bridge deck renovations. All timber is harvested from the **local FSC forests** which could then be processed into glulam by local manufacturers, thereby **minimising transport costs and emissions.**
- **Circular Economy thinking:** Structure can be **disassembled and rebuilt**, allowing bridges to be **widened or reused easily**. The structure can grow and adapt rather than using the 'use-demolish-waste-repeat' model. The structure is **designed to have 4 life cycles before being recycled and put back into the economy.** Laminated Timber could allow for 75% of superstructures total weight to be renewable material which reduces the environmental impact by 70% and makes the entire structure carbon neutral.
- Technological advances and novel approaches to circular infrastructure design demonstrates how we can achieve a more sustainable future.

https://virtualpavilion.co/bridges-of-laminated-timber

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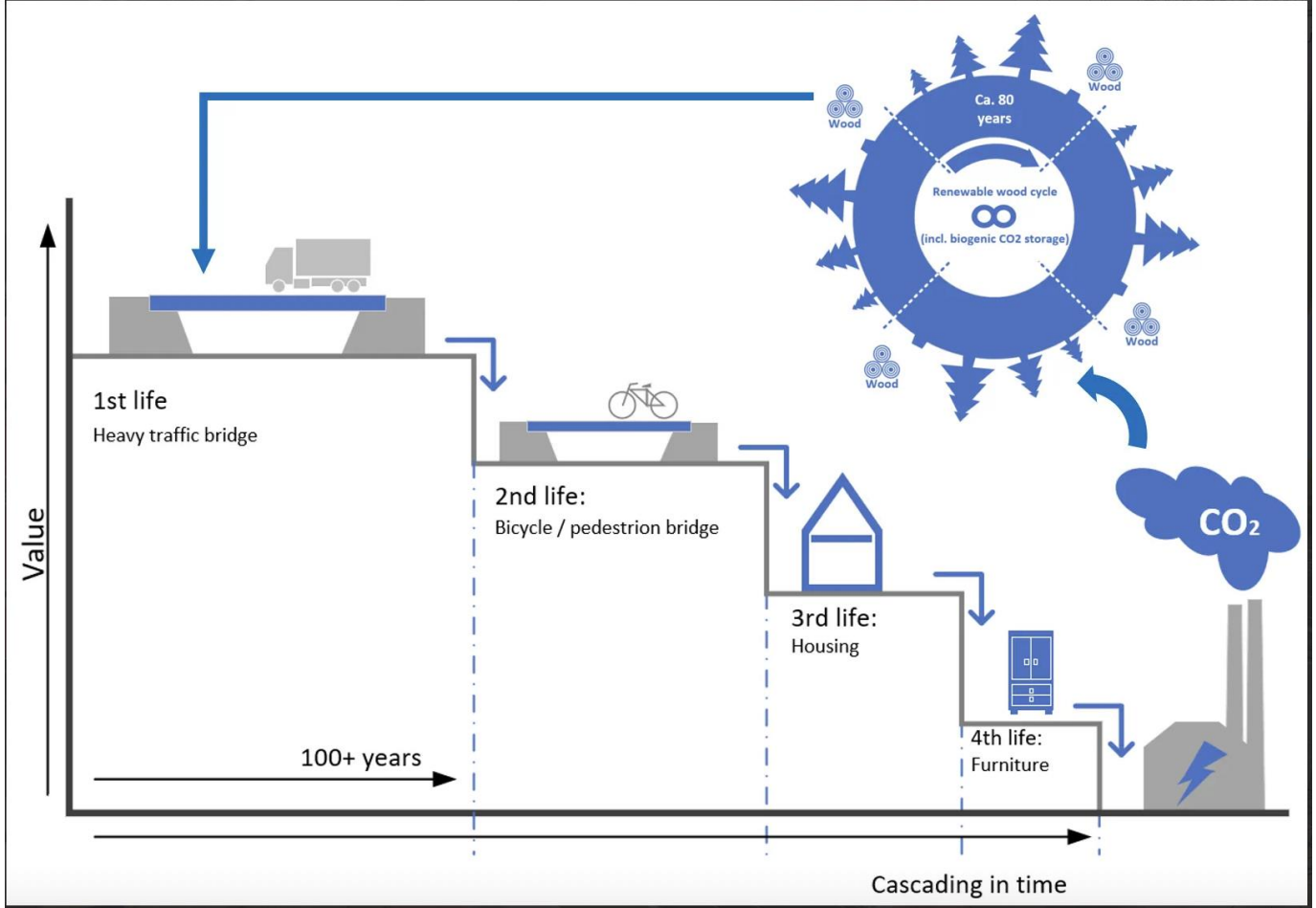

Long Term Timber Usage - Bridges of Laminated Timber (BoLT) © Heijmans

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