

CEGE0021 Civil Engineering in Practice

Sustainable infrastructure

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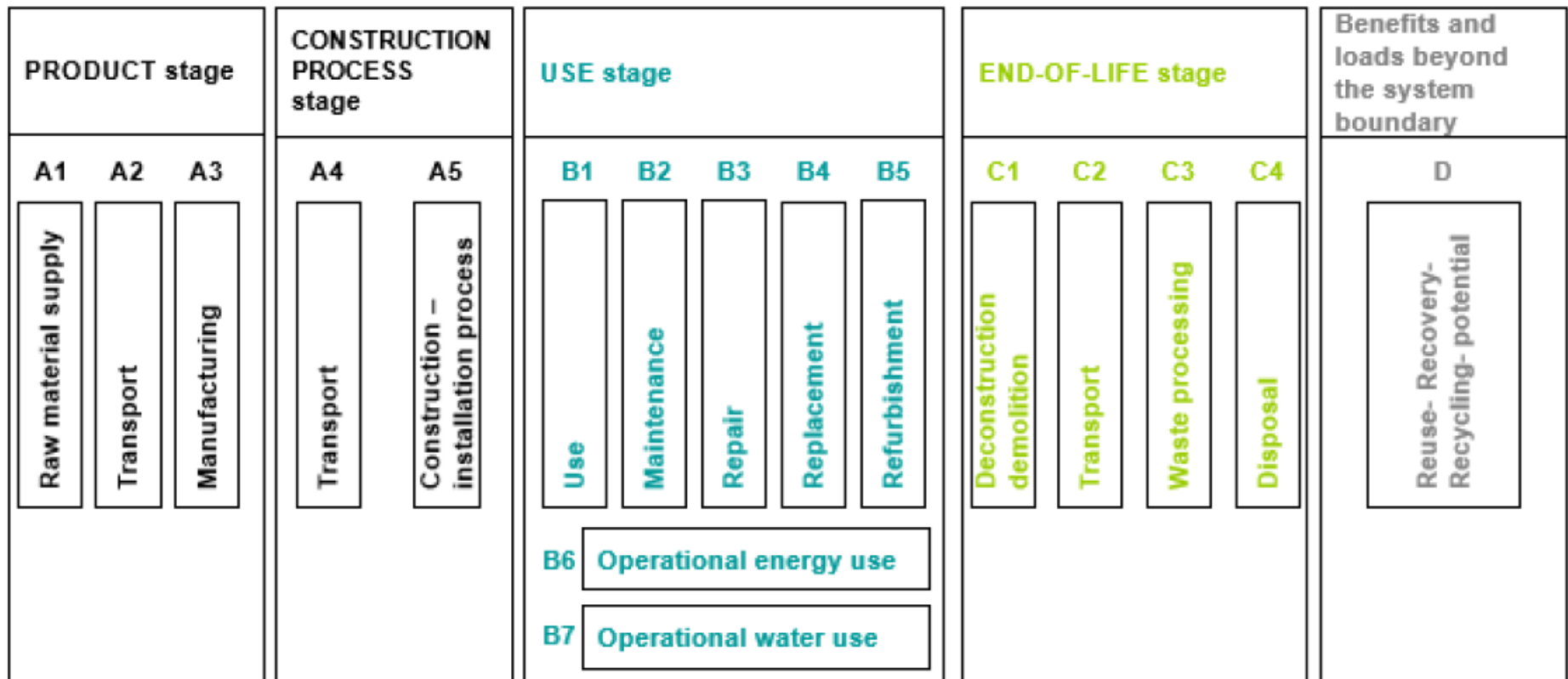
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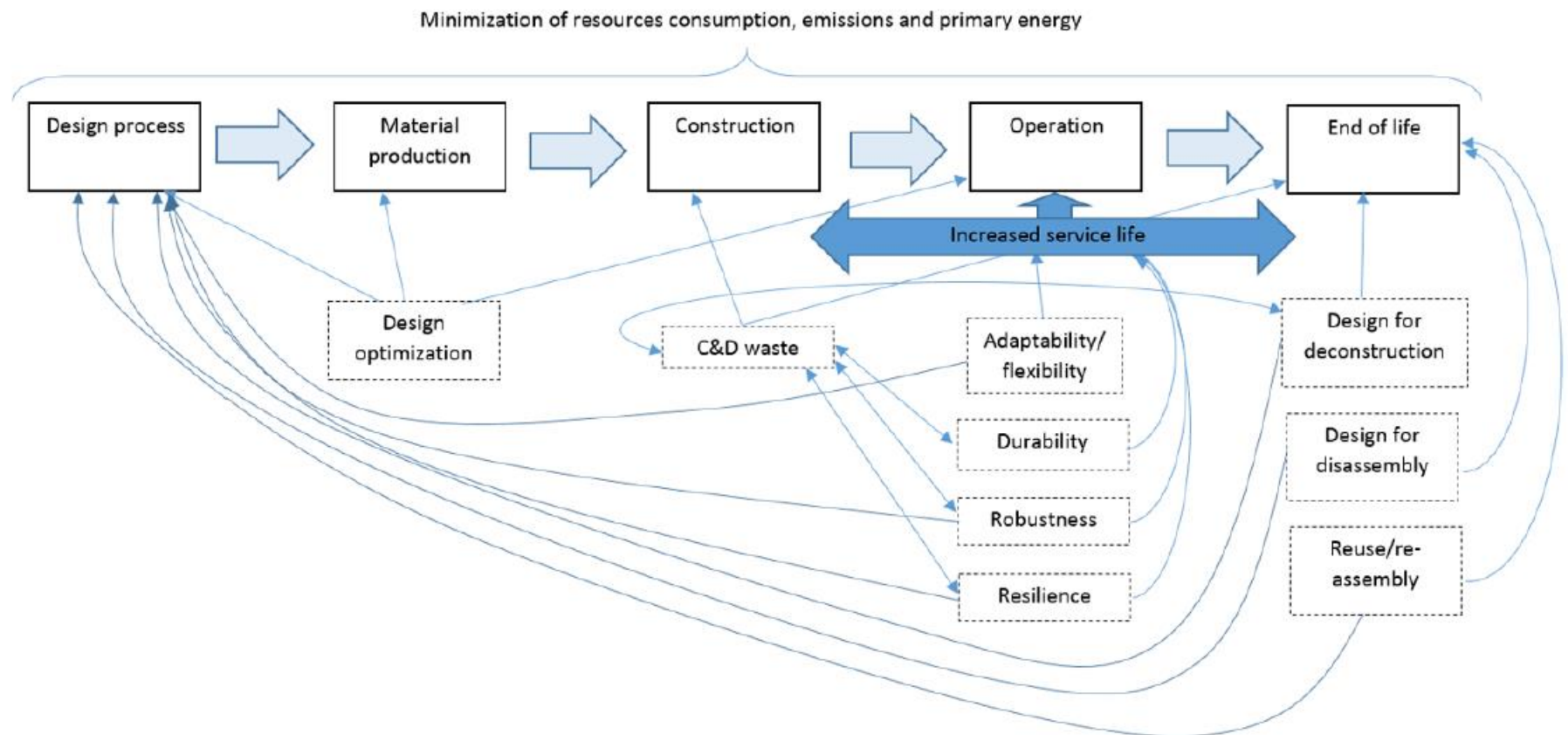
LCA for sustainable infrastructure

- Different from Carbon footprinting with different standards (ISO 14040 and 14044 for LCA, and ISO 14064 for GHG emissions reporting)
- Building product EPD (EN 15804)
- Sustainability assessment of construction works (CEN TC 350)
- Further reading – Model for Life Cycle Assessment of Buildings (available in Moodle)

Scope of the LCA of buildings according to CEN TC350 standards



Links between aspects of structure design over the life cycle



Learning objectives

- Know how to conduct an LCA
- Know how to gather data and develop an inventory
- Be able to apply LCA principles to assess environmental impacts of infrastructure projects
- Be able to use LCA outcomes to support infrastructure design

Structure

- Recorded lectures and exercise uploaded to Moodle
- Four 1-hour sessions (19th Jan, 26th Jan, 2nd Feb and 9th Feb)
- Coursework (20%)
 - Technical LCA report (set on 26th Jan)
 - Deadline 9th March

Structure

- Session 1: Introduction to LCA & defining goal and scope
- Session 2: Data collection and inventory development
- Session 3: Guest lecture from Arup on LCA application in industry
- Session 4: Life cycle impact assessment and result interpretation

Communication

- All information is available in Moodle
- Module forum
- Email
- Ask for an appointment

Requirement of you:

- Watch all the videos before each session
- Complete exercise before each session
- Participate in the discussion during session