

# How will the new c-PCR for steel and aluminium influence the work

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Advancement in metal buildings

CONGRESS

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Environmental  
standards

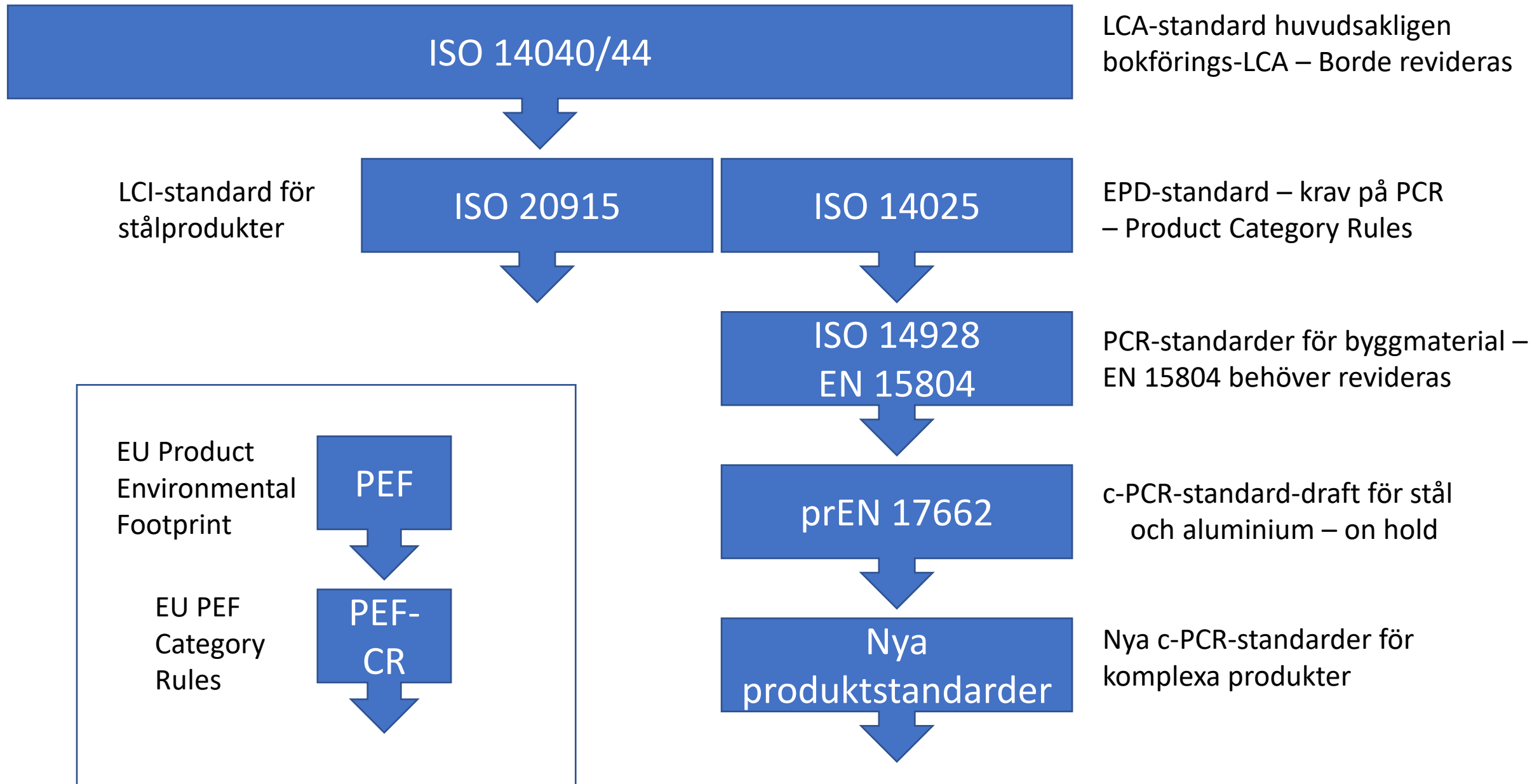


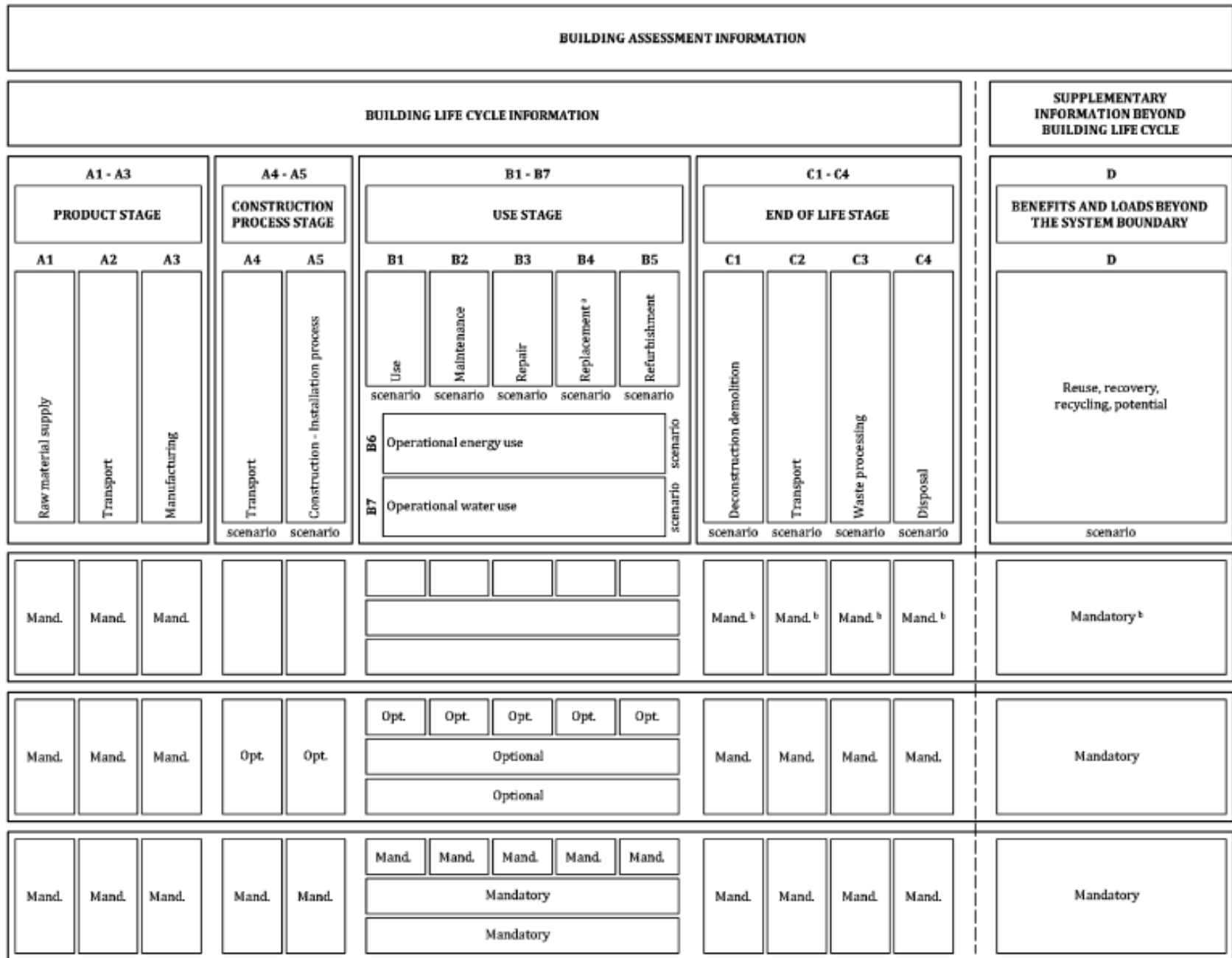
Consistent data

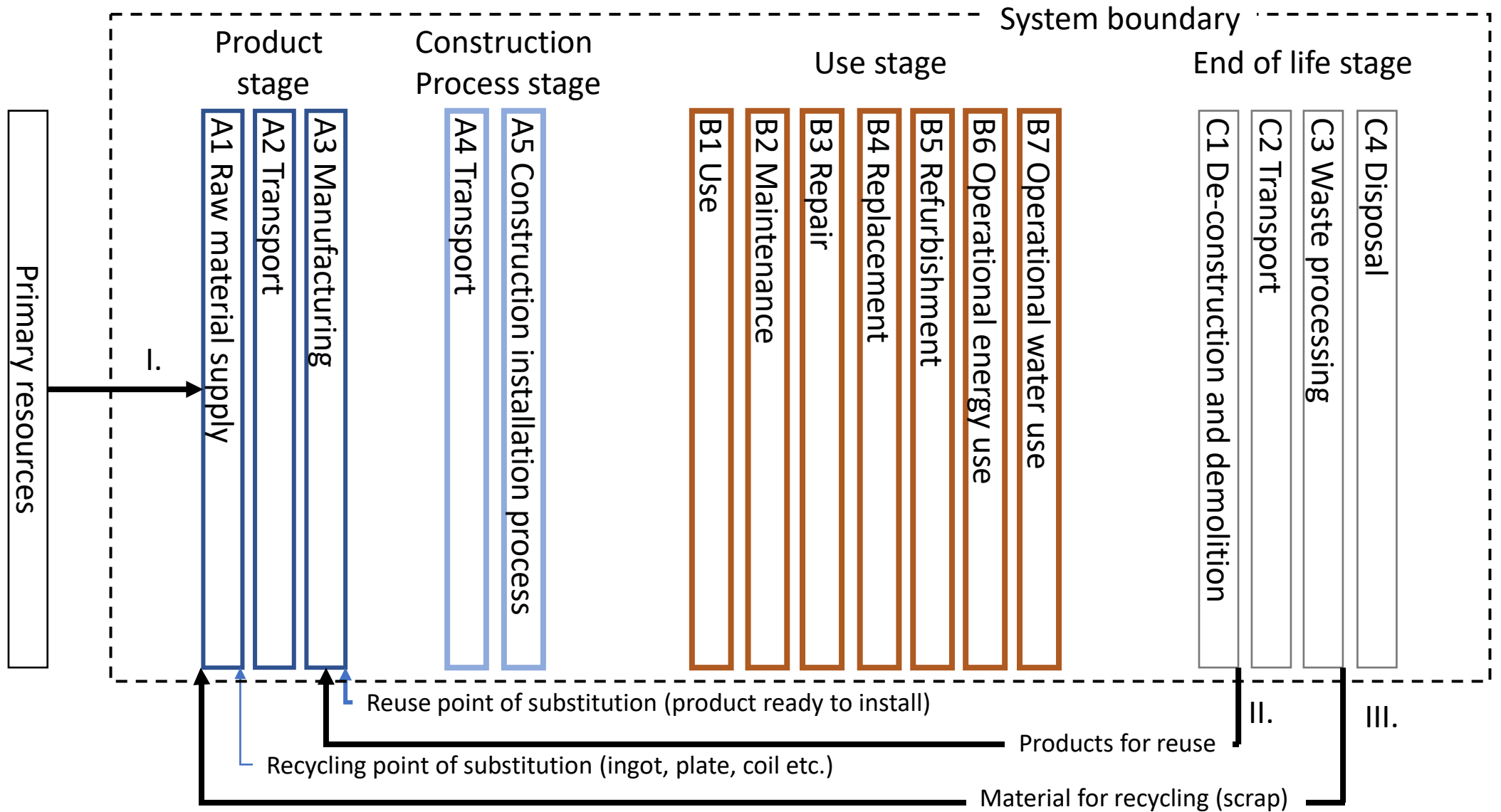
Value systems



Value judgments



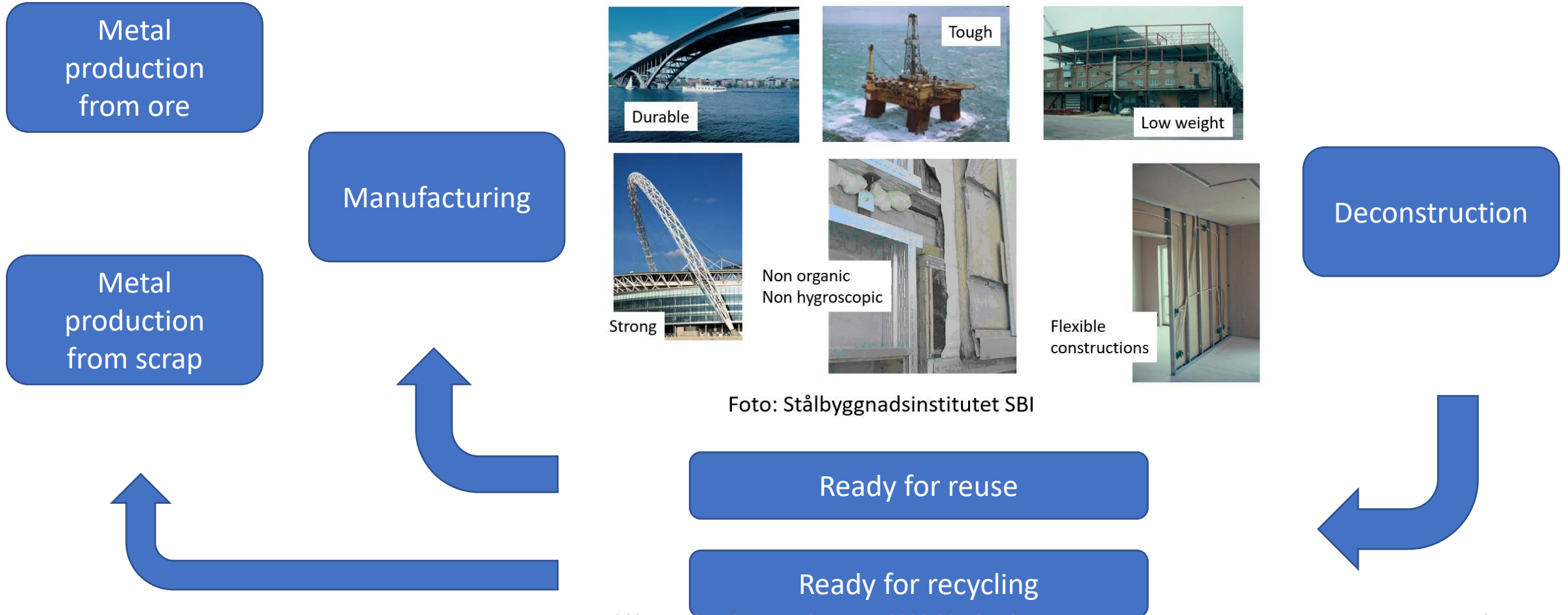




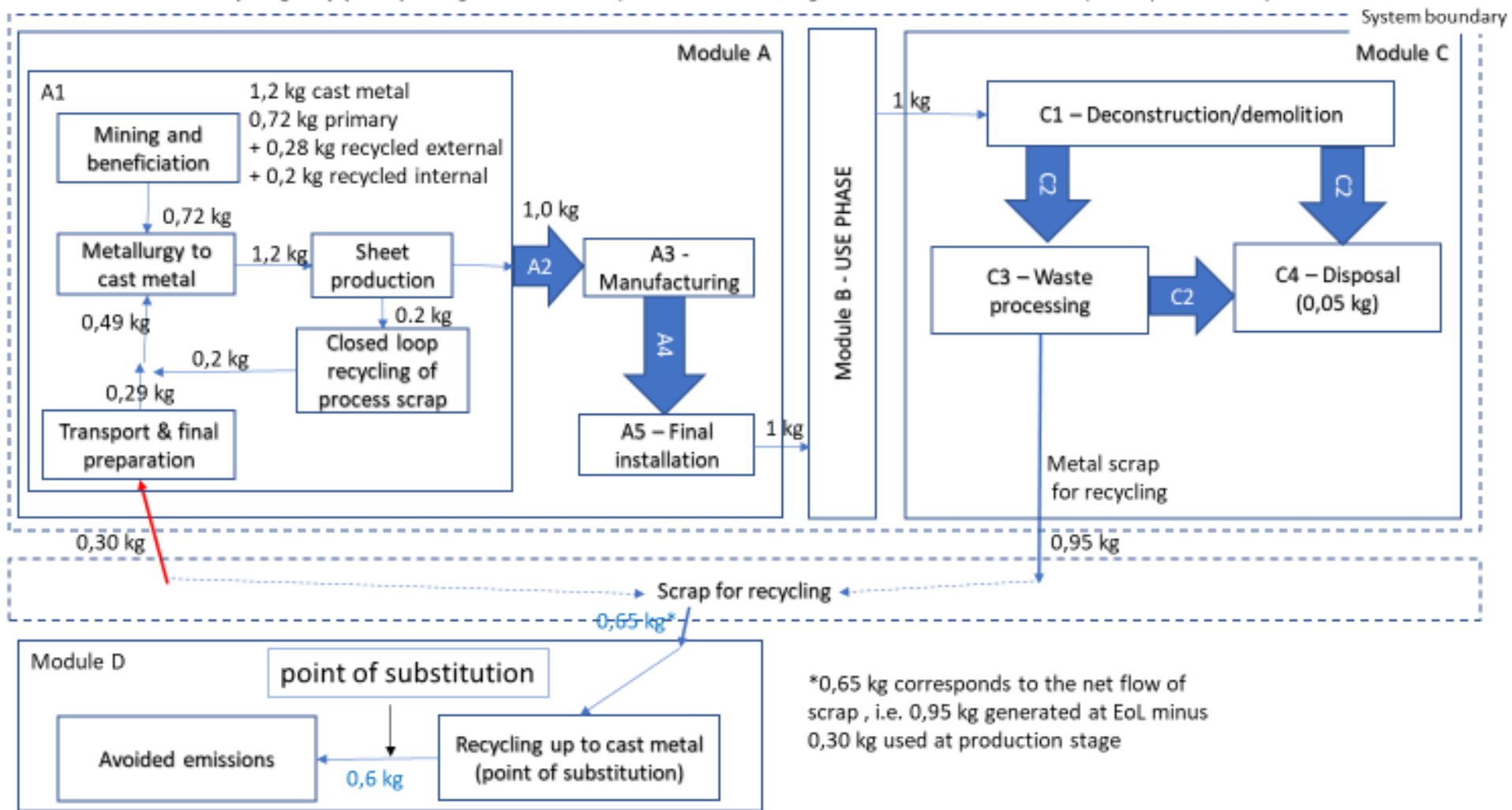
### D Benefits and loads beyond the system boundary (according to EN 15804 and prEN 17662)

Module D shows the net benefit as avoided emissions of reusing a product or recycling material up to the point of substitution, taking into account resource use, the deterioration in quality and fraction of recycled material. See prEN17662 annex F.

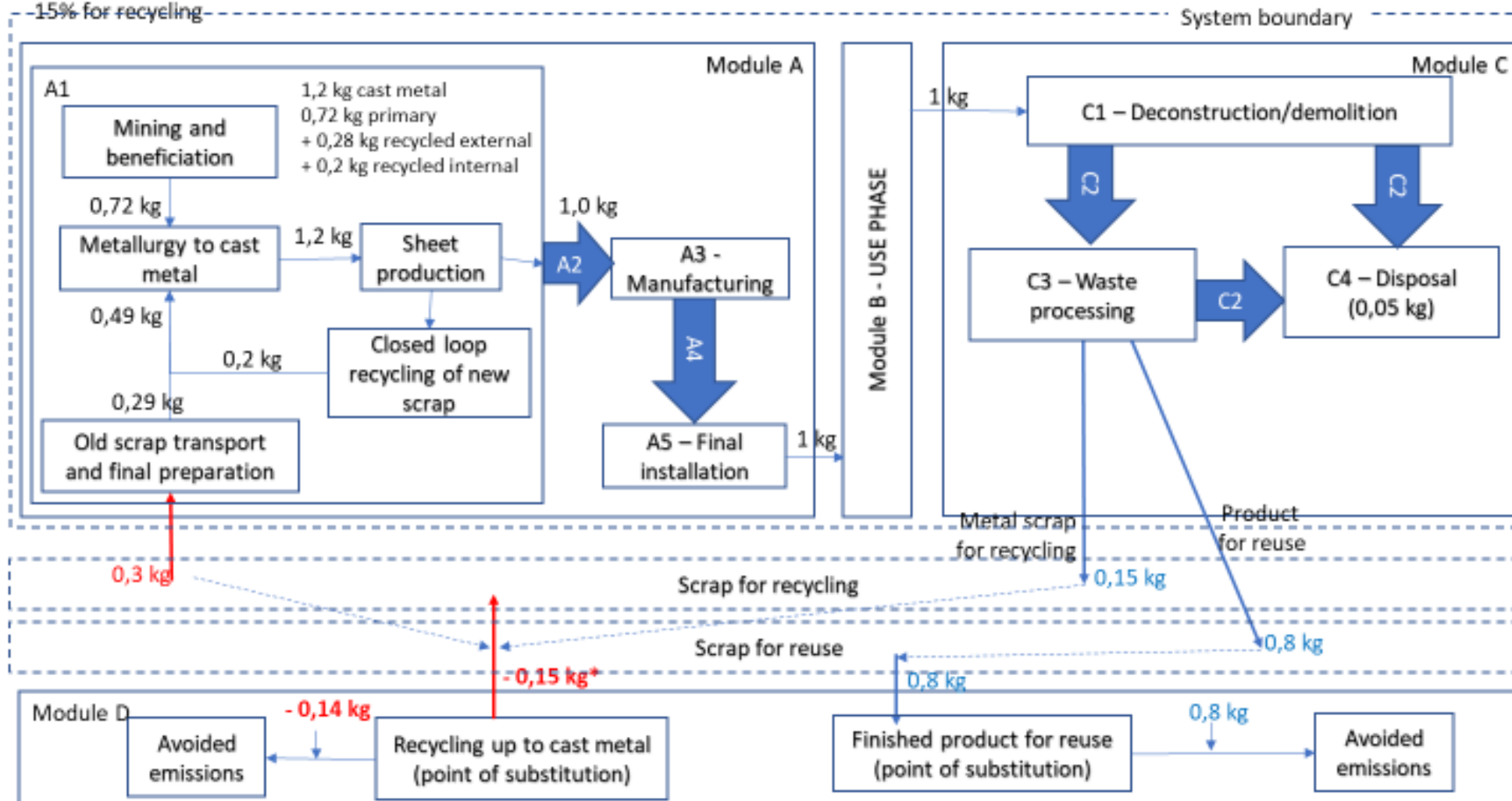
# Metals - sustainable materials



**Overview Case 1 Recycling only (Steel) - 1 kg of metal sheet produced from 1,2kg of cast metal made of 60% primary & 40% recycled**



Overview Case 2 – Recycling & Reuse - 1 kg of metal sheet from 1,2 kg of cast metal of 60% primary & 40% recycling, EoL: 80% sent for reuse and 15% for recycling



\*- 0,15 kg corresponds to the net consumption of scrap, i.e. 0,15 kg generated at EoL minus 0,3 kg used at production stage



# Reuse and recycling C and D

**Table 2 Reuse and recycling scenarios for modules C1, C2, C3 and D**

	Processes taking place in each module			
	C1 Disassembly or demolition	C2 Transport	C3 Waste processing in preparation for reuse and recycling	D Benefits and loads from reuse/recycling
Reuse scenario	Disassembly, initial sorting	Transport to stockholder /fabricator	No further processing needed to reach end of waste state	Cutting to size/ refurbishment/ finishing to the point of substitution. Benefits of substitution of a primary product of equivalent function
Recycling scenario	Demolition/disassembly, initial sorting	Transport to treatment facility	Further separation/sorting of scrap types, cutting to size or shredding and/or baling	Transport to metal re-processor, re- melting and casting. Benefit of substituted primary cast metal ingot/slab

# Reuse and Recycling A1-A3

**Table 3 Processes for reuse of products and recycling of secondary materials in modules A1-A3**

	Processes taking place in each module		
	Module A1 Raw material extraction and material processing	Module A2 Transport to manufacturing	Module A3 Product manufacture
Secondary product input for reuse	None	Additional transport to manufacturer	Cutting to size, fabrication /finishing for final application
Secondary material input for recycling	Transport to metal reprocessor, re-melting and casting, material processing (semi- finished)	Transport to manufacturer	Product manufacturing /fabrication

# Panel and profile design for reuse

- Sometimes makes sense
- Recycling system
  - Organisation
  - Information
- Conserving the value of properties
- Modularity reuse/recycle
- Support by legislation
- Support by statistics

# Panel and profile design for recycling

- Always makes sense
- Recycling system
  - Organisation
  - Information
- Conserving the value of alloys
- Avoiding harmful elements
- Modularity reuse/recycle
- Support by legislation
- Support by statistics

# Q & A

1. Will the ambition to reuse products hamper product development and new projects?
2. The software tools make it easier to make advanced designs rather than standard sizes and products. Will that make reuse more difficult?
3. How will design for reuse change the design?

# The product is dead! - Long live the product!

