

Circular Procurement – getting started

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WP5: CP Support
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Outline



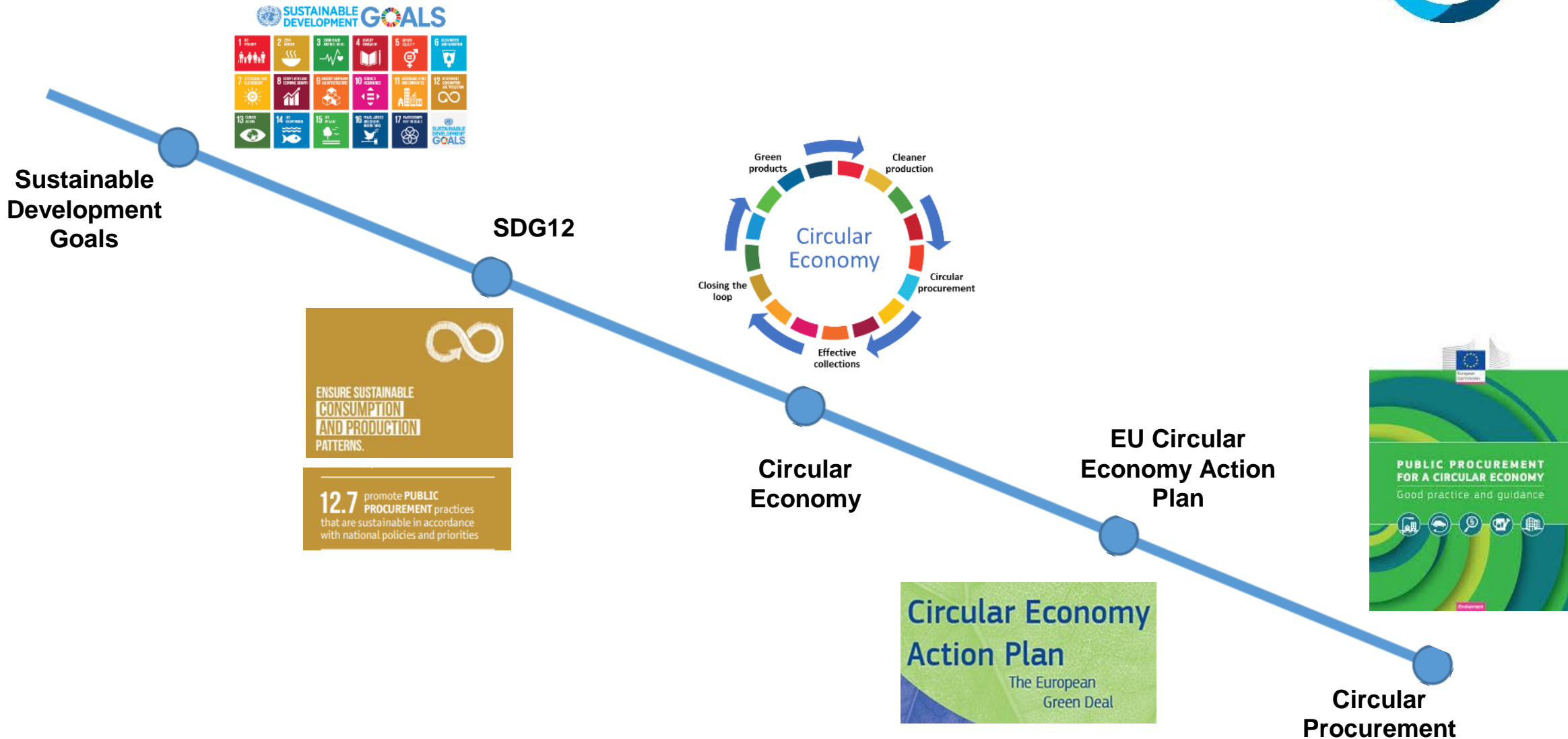
1. Linking procurement to policy
2. Circular procurement – what is it?
3. Benefits – economic, environmental and social
4. Getting started
5. Examples in practice



Policy and procurement



SDGs, circular economy & procurement



The 'Golden Thread'



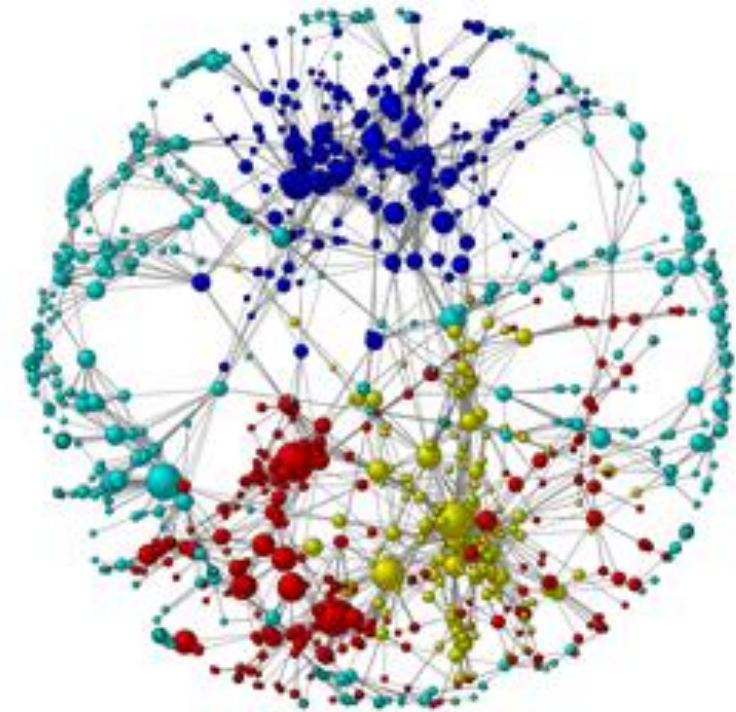
Procurement is part of an evolving system



The procurement cycle is part of a system with multiple inputs and outcomes.

Life cycle thinking is helpful in the public procurement process to evaluate the inputs, outputs and potential environmental impacts of purchasing a particular product throughout its lifecycle.

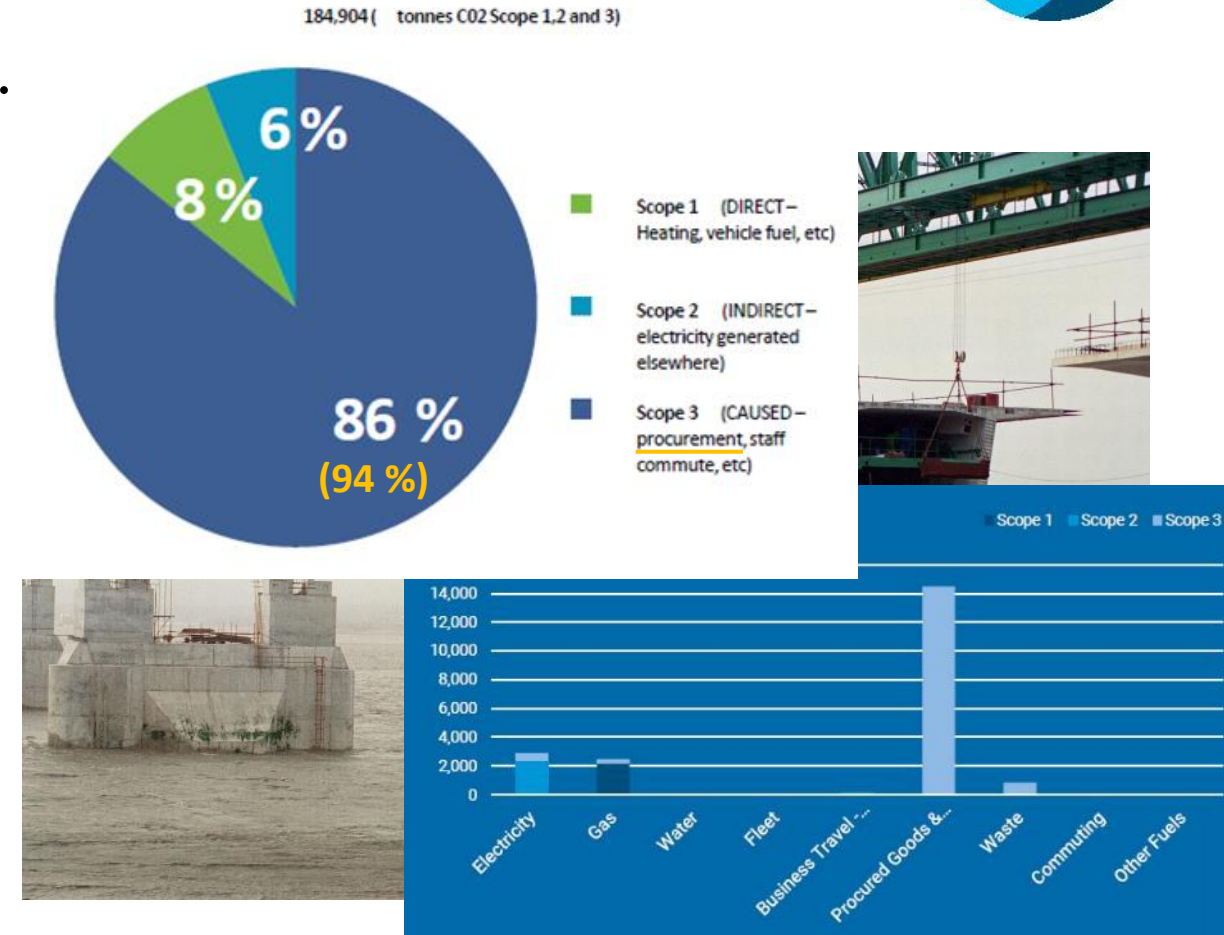
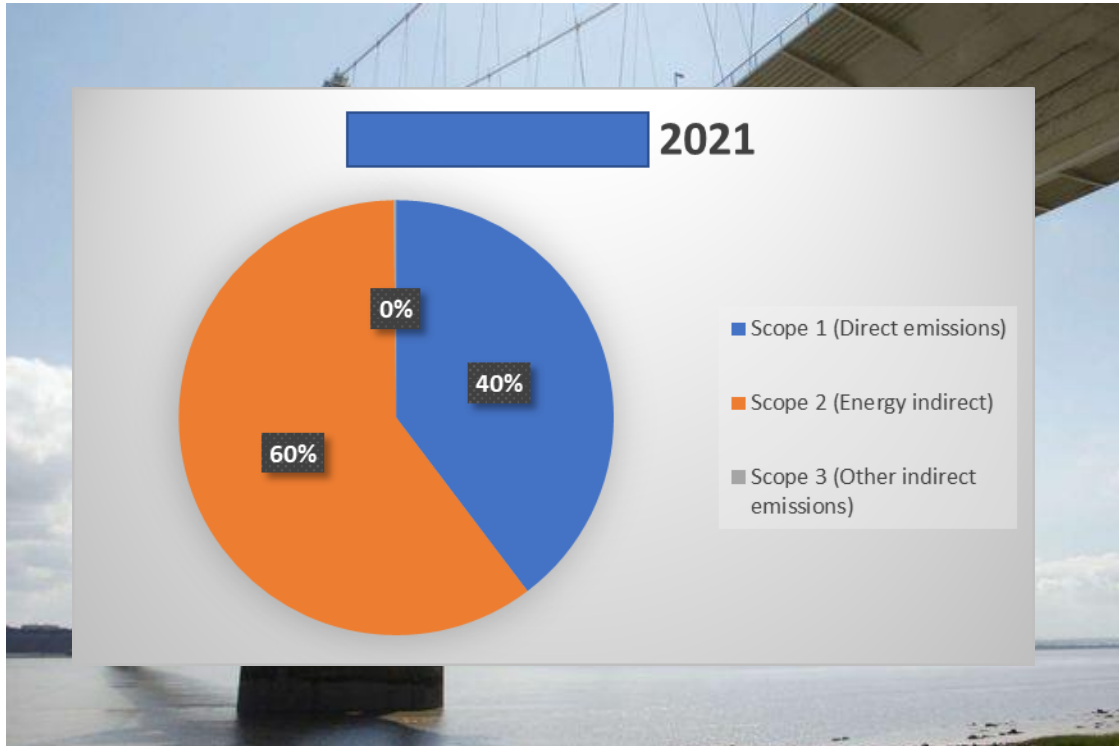
You will have to procure, and pay for, waste services at some stage so understanding total costs and impacts early is more cost effective!



The full carbon picture

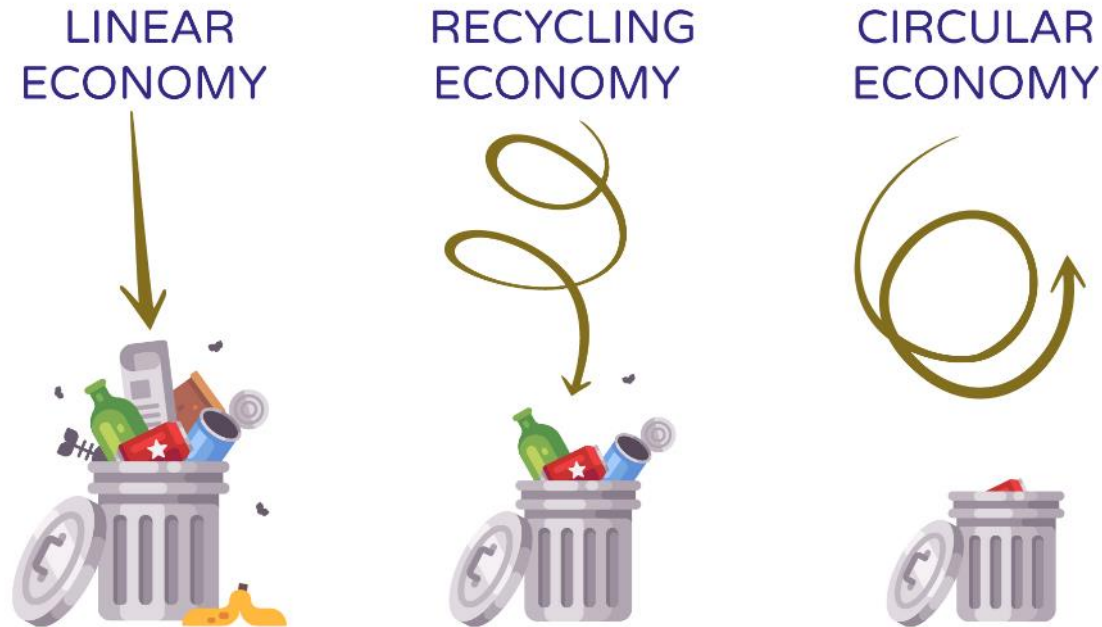


Scope 1&2 - you think you are looking at this.....



But the reality is very different if you omit Scope 3 and procurement

What is circular procurement?



What is procurement?



Procurement is the act of obtaining goods or services.

“Public procurement refers to the purchase by governments and state-owned enterprises of goods, services and works” (OECD)

“Procurement is the business management function that ensures identification, sourcing, access and management of the external resources that an organisation needs or may need to fulfil its strategic objectives” (CIPS)

Procurement is a strategic function!

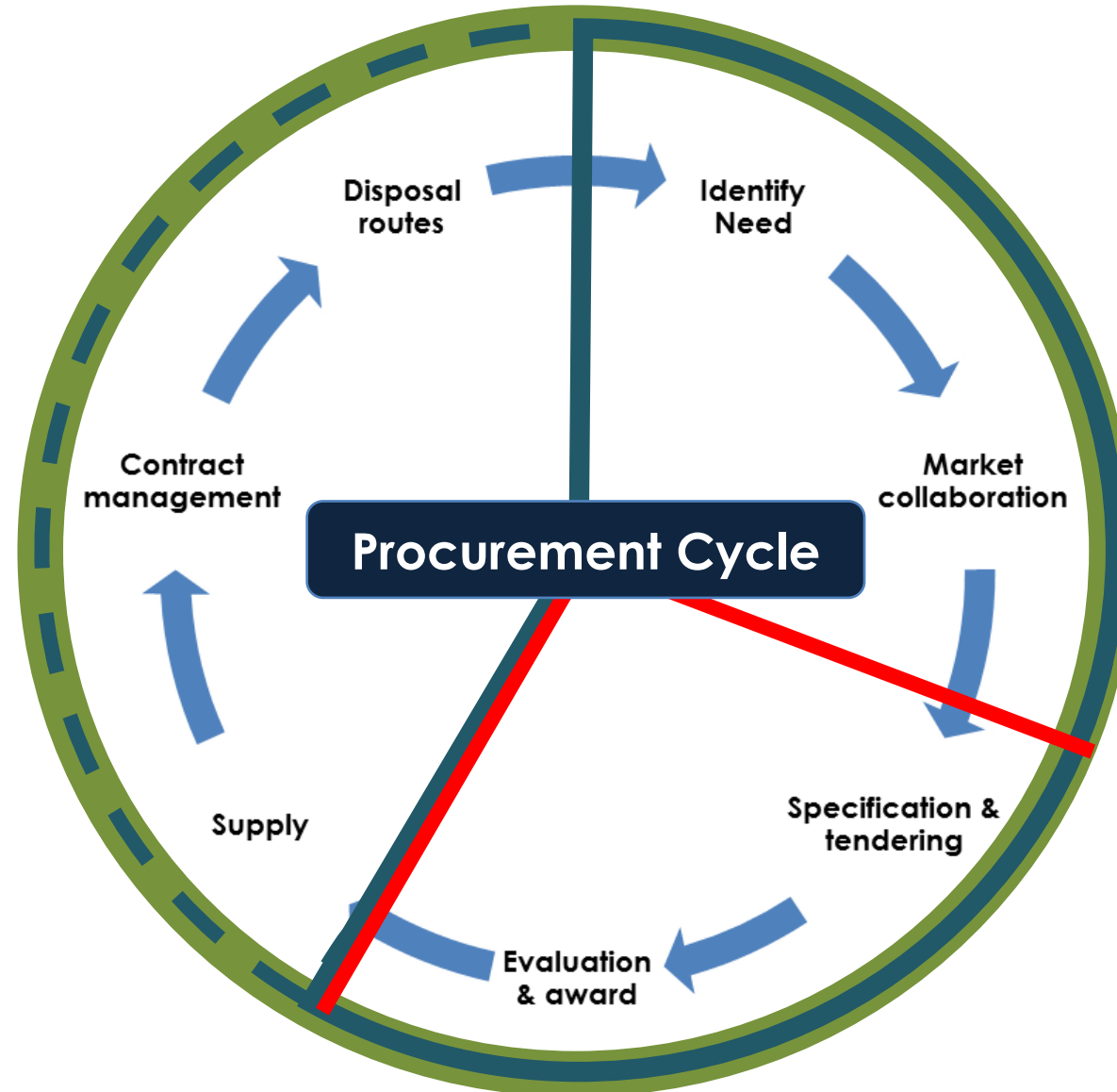
Circular procurement is...



... an approach to delivering sustainability goals that recognises the role that organisations can play in supporting the transition towards a circular economy.

... the process by which public authorities purchase works, goods or services that seek to contribute to closing energy and material loops within supply chains, whilst minimising, and in the best case avoiding, negative environmental impacts and waste creation across their whole life-cycle.

Simple procurement cycle



Circular procurement benefits



Life cycle cost benefits **throughout whole life cycle** by maximising lifespan and value of materials, products and assets in order to:

- Save money
- Avoid waste – retain value
- Reduce emissions
- Reduce use of virgin materials
- Improve resilience
- Create jobs
- Stimulate innovation.

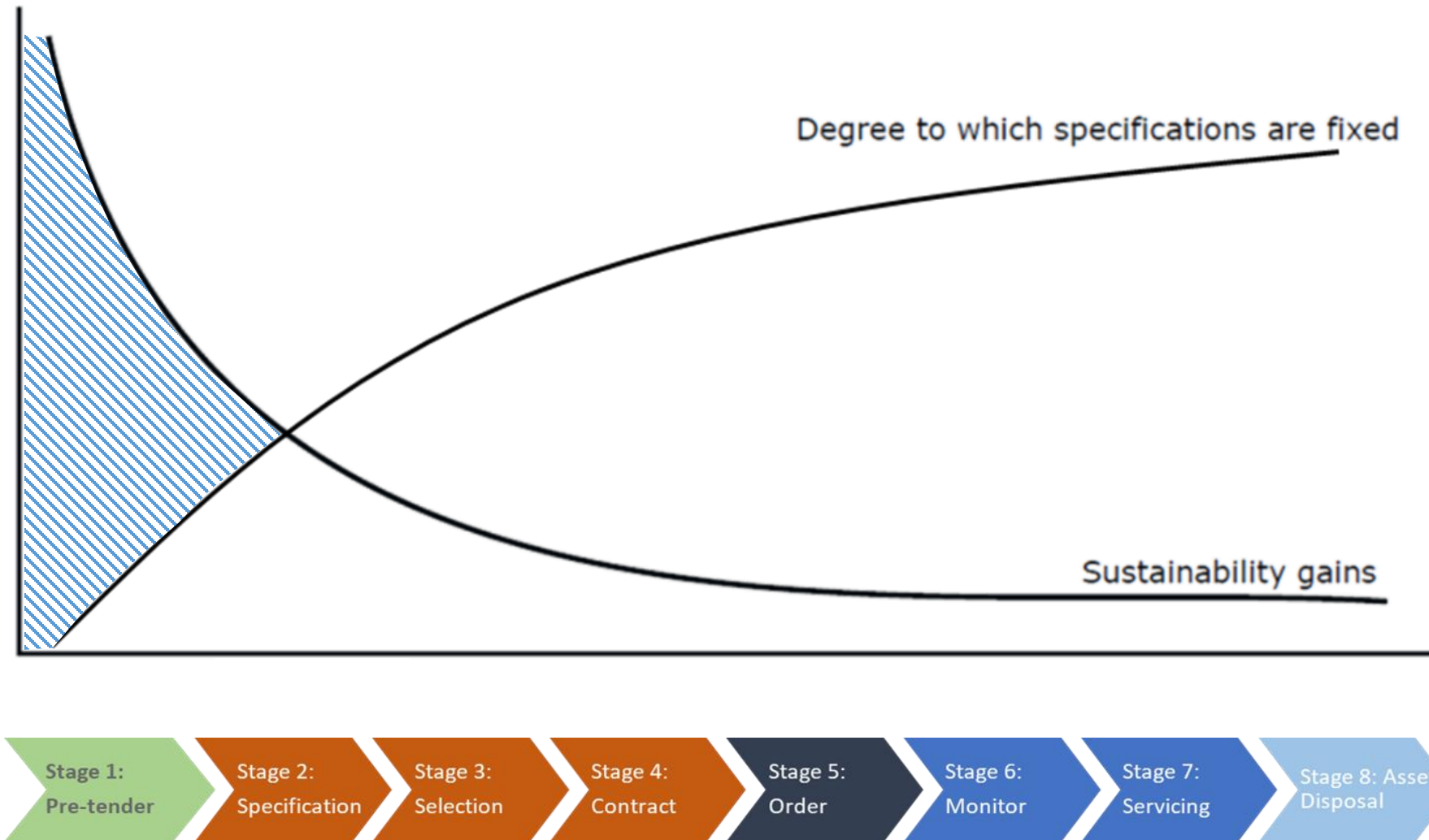


A circular approach to procurement is a systemic approach

Getting started



Best time to act



Key principles



Circular procurement addresses all stages of product lifecycle:



Source

Where does it come from?

Who made it?

What is it made of?

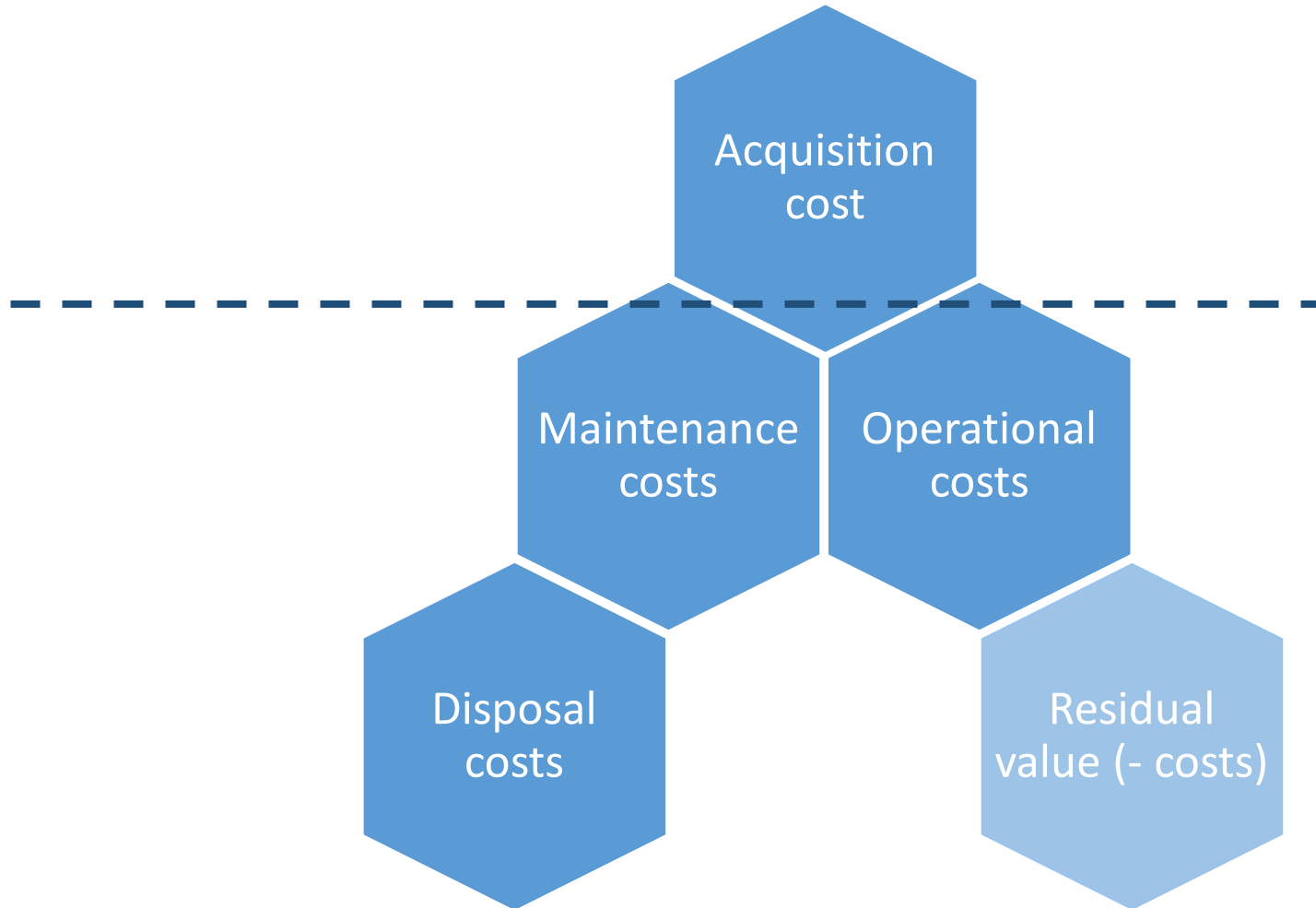
Use

How will it be used?

Dispose

What will happen to it afterwards?

Total cost of ownership



Part of strategic procurement and category management along with:

- Category management
- Risk assessment
- Supplier chain engagement
- Asset management

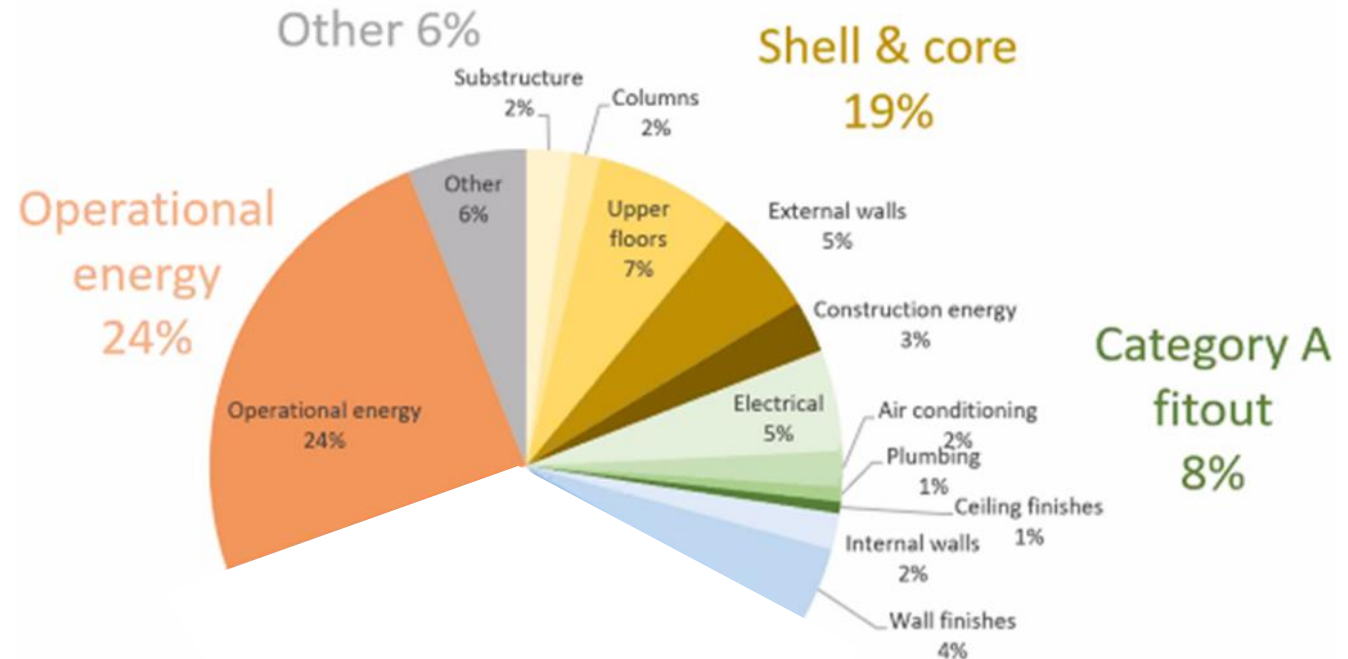
Helps determine relevant procurement /business model:

Ownership versus alternative (circular) models

Life cycle approach



- Proportionate approach depending on value
- Identifies the main areas of cost and of carbon impacts, e.g. operational versus capital
- Thinking about the life cycle brings larger gains than an incremental approach
- Helps identify the TRUE COST OF OWNERSHIP



Source: Treloar, G.J. et al, 1999, *Embodied energy analysis of fixtures, fittings and furniture in office buildings*, Facilities, Volume 17, Number 11, pp. 403-409
[Accessed on 14 June 2019 at https://www.academia.edu/18481731/Embodied_energy_analysis_of_fixtures_fittings_and_furniture_in_office_buildings]

Circular procurement in practice



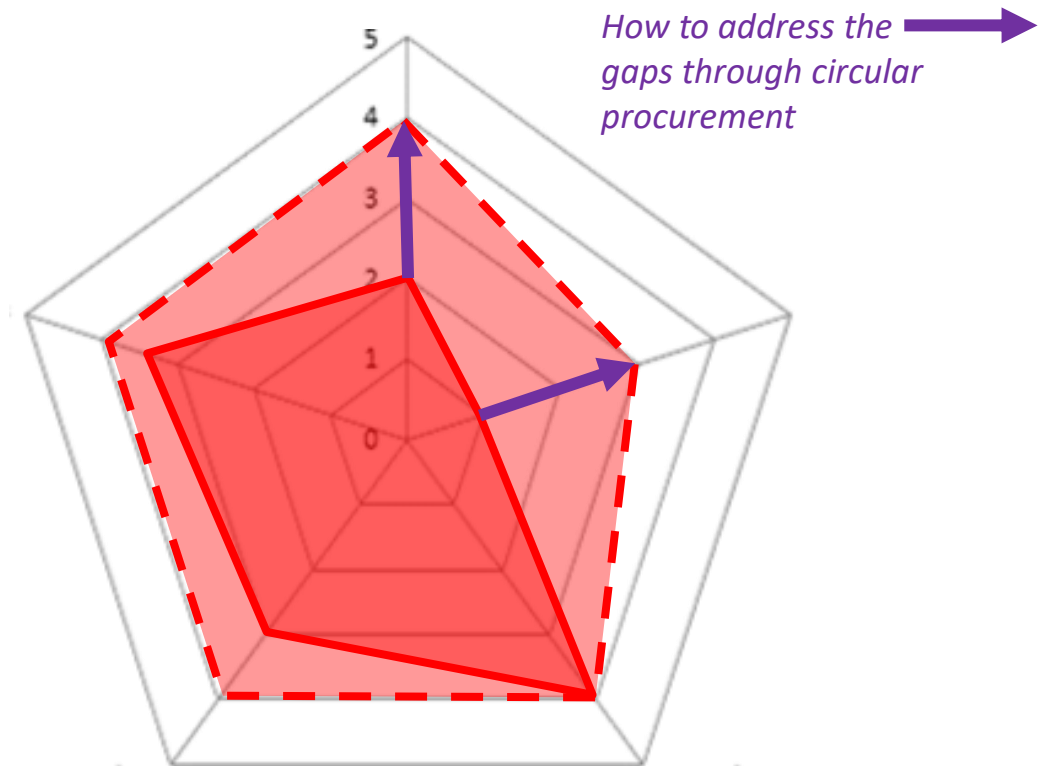
Identifying realistic ambitions



Mikkeli ambition exercise 2020

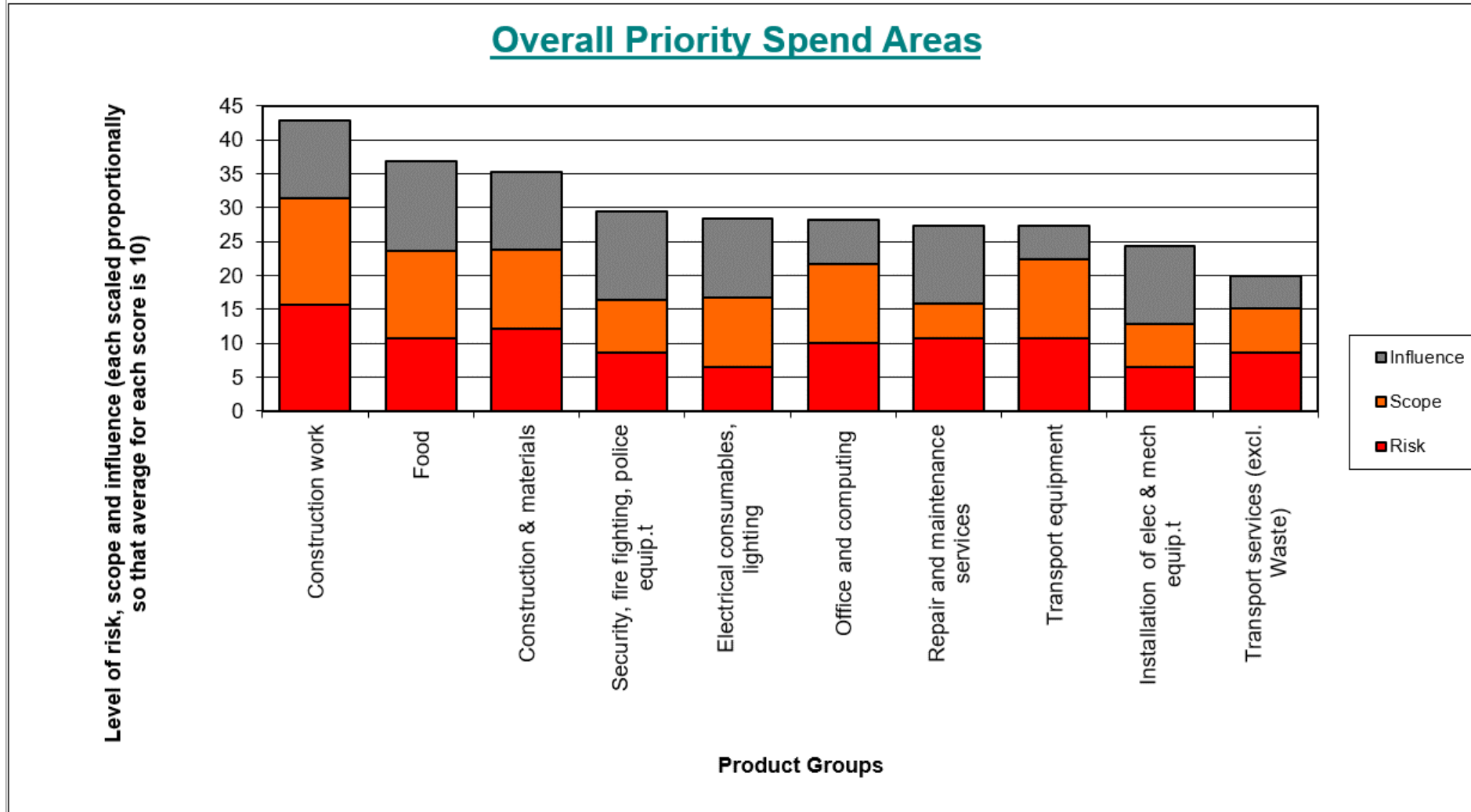


City Baseline



Construction
__Baseline
-- project

Mikkeli – Overall priorities in spending



Circular design for the built environment

8 principles

PREVENTION

1.



Rethink the needs
Find non-material solutions



RETAIN VALUE

2.



Prolong the lifecycle of
existing assets

3.



(Re)use existing assets, materials
resources and natural processes
in a sustainable way



CREATE VALUE

4.



Design for multiple
lifecycles

5.



Design futureproof +
adaptive

6.



Design for optimal
management + maintenance

7.



Design for low environmental
impact of materials

8.



Design for optimal
resource and energy use in the
build and use phases

Addressing challenges



Challenge	Detail
Policy	Buyers: Ensure clarity in objectives and buy-in. Define CP in terms of outcomes sought, including contribution to the inclusive growth of the Scottish economy.
Innovation	Buyers: Enable trialling of new ideas, speeding the testing process. Reward innovation – be open to ideas, reward in evaluation of tenders.
Tender	Set out CE objectives, outcomes and specifications. Ask a smart question - get a smart solution.
Collaboration	Supply chain: Sector to lead through collaboration - work in partnership with supply chain to achieve intended outcomes.
Good practice	Supply chain: Contractors can lead clients and supply chains by demonstrating what is already being delivered and what is possible.
Whole Life Costs	Buyers and suppliers: Focus on early identification of all Whole Life Costs and enable consideration of alternative business models.
Measure	Buyers: Link KPIs to outcomes sought, using relevant tools e.g. BRE Smart Waste Tool.

Circular viaduct: Vianen archbridge, Netherlands

Volker InfraDesign



CONSOLIS
SPANBETON



Rijkswaterstaat
Ministerie van Infrastructuur en Milieu

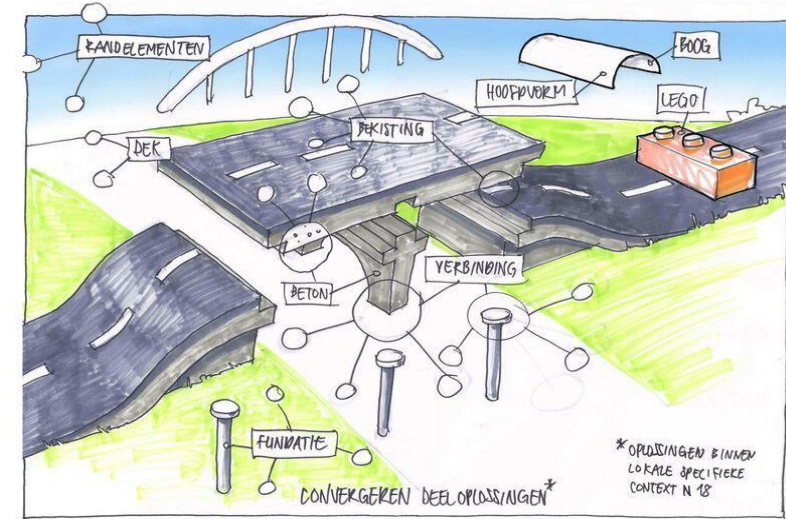


Reduce materials used
Reduce waste
Minimise disruption

- Modular approach – multi-span
- Designed for disassembly
- Faster onsite build – less disruption
- Fewer materials used in total construction
- Materials passport

LESSONS LEARNED

- Early consideration of alternatives to traditional build result in life cycle benefits



Reduce and reuse: London2012 stadium



Sir Robert
McALPINE
POPULOUS
DRAWING PEOPLE TOGETHER

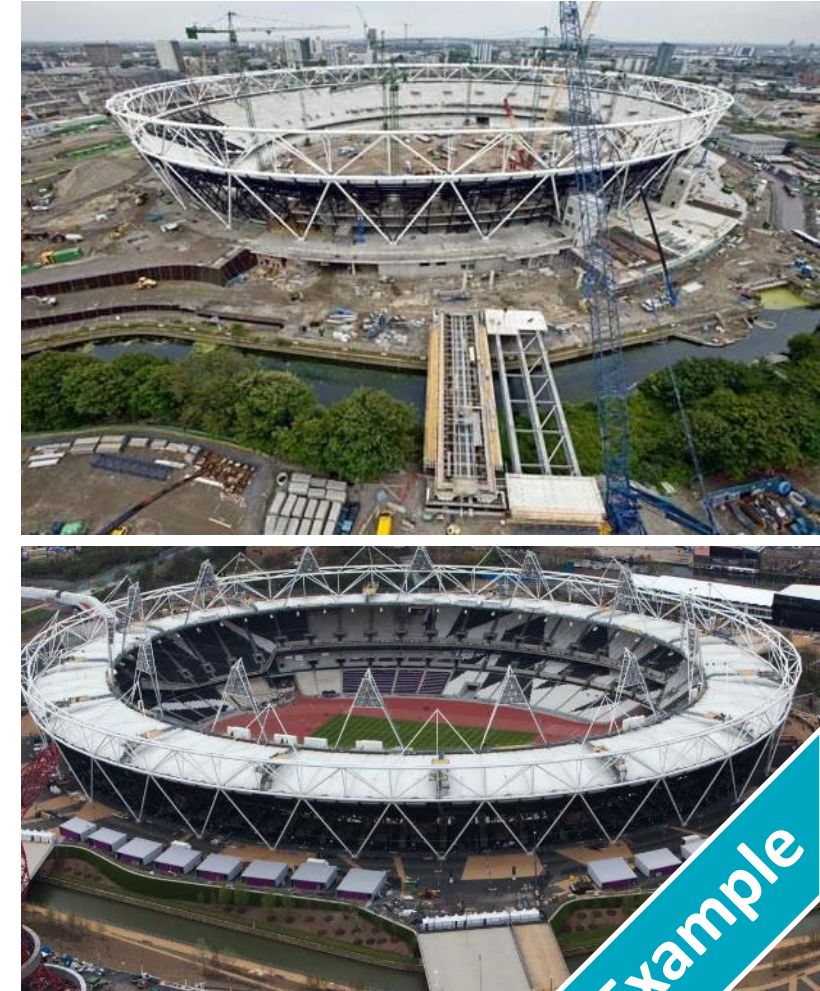


Reduce materials used
Reduce waste
Maximise functional life

- Modular approach – multi-span
- Designed for disassembly
- Faster onsite build – less disruption
- Fewer materials used in total construction
- Materials passport

LESSONS LEARNED

- Early collaboration between designers and contractors
- Thinking ahead at design stage



Example

Fully circular building



Procurement considerations

- maximum sustainability within the available budget
- performance requirements
- making the greatest possible use of knowledge in the market
- Temporary materials bank

Design for disassembly

- Area: 12,994 m²
- 165,312 screws so it can be disassembled
- Materials passports logged on Madaster along with value
- Built primarily from wood
- The floor can be demounted
- Flexible space - interior walls can be removed
- Each piece of the structure will be reused somewhere else
- Uses geothermal heating and cooling
- PV panels and reversible e-charging for vehicles

Triodos Bank, The Netherlands



Photo: Bert Reitberg



Photo: Carel van Hees/Edge Technologie

City of Greater Geelong

Design & supply road infrastructure products that apply the principles of a circular economy



Expression of Interest process, for Pforl road infrastructure products:

- The use of recycled material, including kerbside recycling, in user level road infrastructure products.
- The successful tender will include the design, development/creation, manufacture and installation of user level road infrastructure products.
- The new products will fulfil the role currently met by asphalt/bitumen road seals, concrete kerbs and concrete footpaths.



LESSONS LEARNED

- Lessons applied from initial Pforl (recreational bridges)
- e.g. market engagement, procurement process, circular outcomes.

Example

Material, component and product exchange



Home

Available bridges and parts ▾ 16

About us ▾

Contact

📞 040 304 1246

Bridges on the way to a new destination

Advantages of the Bruggenbank



Saving CO²

A reused bridge brings back your footprint.



Cost saving

The largest investment in a reused bridge has already been made before.



Circularity

A vacant bridge with a whole life ahead of it.



Unburdening from A to Z

Bridging from idea to realization.



**THANK YOU
VERY MUCH!**



Website: www.circularcities.eu

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