Enablers for circularity in the construction industry in Mauritius

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National circular economy workshop

Le Meridien - 26 05 22

Vision and goals

"A built environment that supports the regeneration of resources and natural systems, providing socio-economic benefit through a thriving circular economy."

The 2030 goal: "The sustainable management and efficient use of natural resources within the built environment, achieving zero waste to landfill targets and working towards a built environment with net zero whole life resource depletion."

The 2050 goal: "A built environment with net zero whole life resource depletion, working towards restoration of resources and natural systems within a thriving circular economy."

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The built environment - The context

Climate Action

- Buildings account for ~40% of energy-related global carbon emissions
- ~25% of all building emissions are related to material production and construction

Resource & circularity

- Buildings are responsible for 50% of global material use
- 42.4bn tonnes of materials consumed annually

- Resource prices have become more volatile and are expected to rise over the long term
- Easy-to-access, high-grade stocks of key commodities are dwindling
- Governments are imposing new restrictions on pollution and waste that apply along entire product life cycles
- There is an increased focus on emissions happening today, particularly as energy systems decarbonize

In a resource-constrained world, how we get, use and dispose of materials, and make the most of our current resources, will be key for a successful and sustainable global economy.

Source:https://gbca-web.s3.amazonaws.com/media/documents/circular-economy-summary-paper-and-survey---final.pdf

From efficiency to circularity

Efficiency

Circularity not formally recognized In buildings, energy efficiency, waste minimisation.

Sustainability

Circularity begins being embedded into sustainability strategy. This means tracking upfront carbon emissions reductions; recycling rates and reduced waste to landfill targets

Circularity

Circularity is integrated as a core strategy. This means looking at virgin materials and reused materials; products with product stewardship commitments; products as a service that include repairability; lifetime extension of plant and

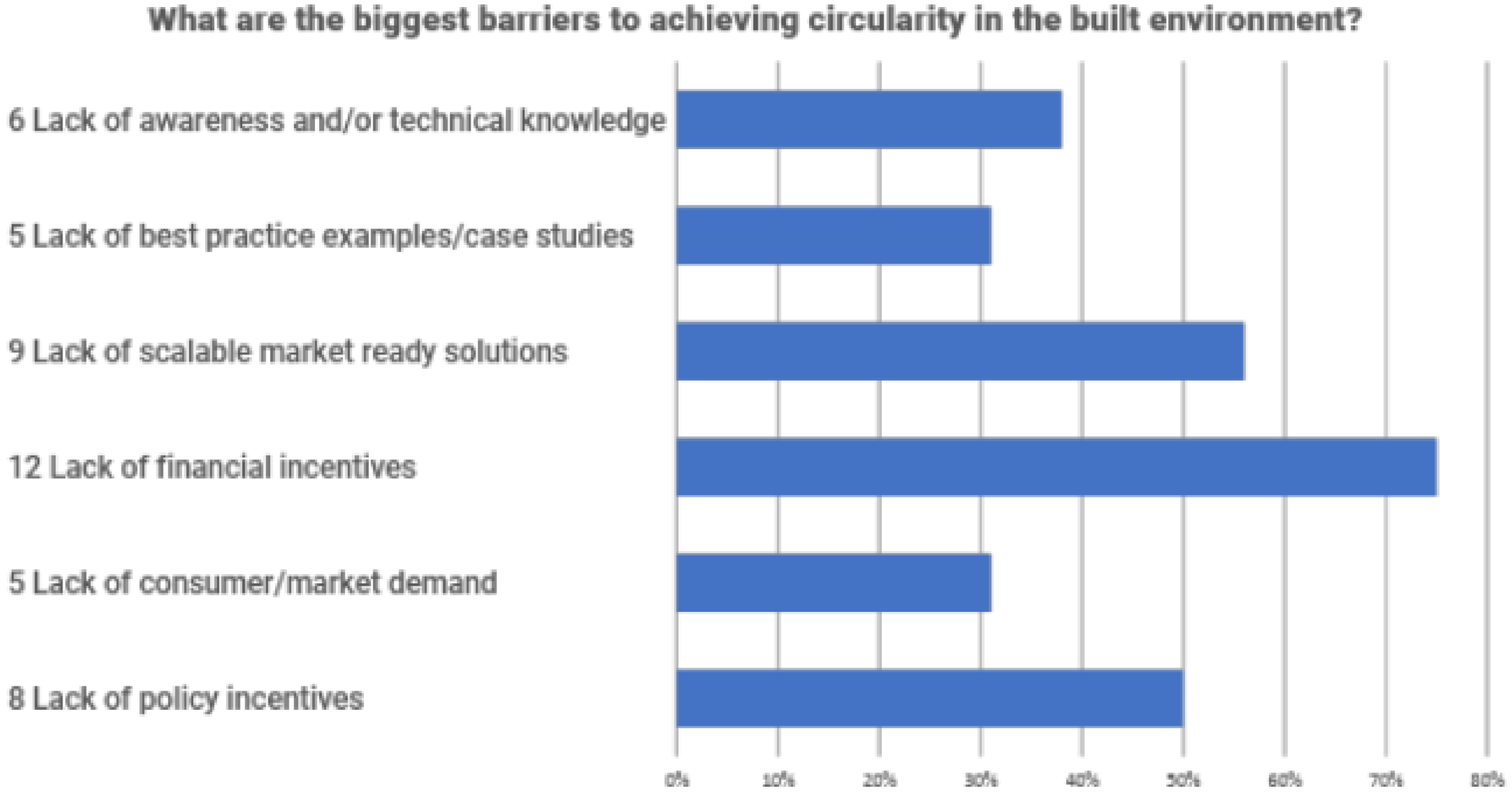
Source:https://gbca-web.s3.amazonaws.com/media/documents/circular-economy-summary-paper-and-survey---final.pdf

EXAMPLE - CIRCULAR STRATEGIES

- Better operational waste management
- Offsite construction of modular elements
- Use of waste heat and energy or biomass fuels
- Better outcomes for materials at end-ofuse, including on-site reuse and downstream processing
- Circular green procurement, such as recycled content, low-carbon materials
- Circularity integrated into building design (modular, re-use, deconstruction)

ource:https://gbca-web.s3.amazonaws.com/media/documents/circular-economy-summary-paper-and-survey---final.pdf

What are the biggest barriers to achieving circularity?



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Circular Economy activity across WorldGBC network

Education / thought leadership and publications

- *Turkey GBC established a circularity platform*
- *Resources and Circularity Hub related to specific SDGs – Chile GBC*
- *increased focus on green tourism as a driver for wider circular economy – Qatar*
- *develop circ topics with members – PLGBC*
- *collecting Finnish circular economy projects together, sharing knowledge and forming a competence center for the industry.*
- *DGNB seminars and presentations and online toolbox and DGNB report "Circular Economy - Closing loops"*
- *Colombia - publication by the end of this year on the roadmap of sustainable materials, guide for sustainable site work management and circularity at the construction phase. Next year on the sustainable water management.*

Calculating emissions & Rating Tools

- *Including LCA in ZCB Accelerator in Colombia*
- *Core topic of the DGNB certification system. CE is measurable within the certification system and a new certification system for deconstruction*

Improving products and services

- *Circularity of products and recycling rates at end of life*
- *construction solutions to build more circular and low carbon buildings and recycling services*
- *Material circularity projects ongoing with our suppliers and have group and site targets for process efficiency and waste.*
- *Identify impacts of waste disposal from activities, set targets to improve our waste management + prevention into procurement*

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Enablers

1. Capacity building/Communicaton

- Circularity in the built environment
- Language
- Technical knowledge
- Case studies
- Sustainable business models
  (incl. demand side)
- Products
- Technologies
- Strategies
- Practices
- Resources and tools

2. Innovation

- Technology, products and services
- New business models
- New ownership models (product as a service)
- Research and development
- Support to innovation
- Living lab - pilot/testing.showcase
- Market support and adoption
- Capacity building

3. Finance

- Support business models
- Atrracting and tapping into funds
- Rewarding best practices
- Financing of the enablers
- Common language

4. Voluntary certifications /Regulations

- Rating
- Building certifications (language/KPIs)
- Certifications as primers for regulations

- Inspire from other taxnonomies, standards
- Roadmaps
- Regulations (Life Cycle Analysis - LCA, Environmental Product Declarations - EPD/material passports)

5. Collaboration

- Stakeholders (incl. across region)
- Incentives to collaborate
- Platform

- Policies
- Specifications
- Best practices
- Knowledge sharing
- Information
- Adoption

Thank You!

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