



Global Policy Hub on Sustainable Buildings and Construction Materials

Bioregional
15 September 2022



Global Alliance
for Buildings and
Construction



Bioregional

- Sustainability charity, founded in 1994
- Work with major retailers & business
 - Sustainability Strategy Development
 - Net Zero Carbon strategies
 - Science Based Targets
 - Sustainable Products
- Work across five continents



Contents

1. Global Sustainable Materials Hub - Background and associated projects
2. Scoping and development work to date
3. Key principles and functionality of the Hub
4. Upcoming Hub development and next steps

Global Sustainable Materials Hub –

Background and associated projects

Work with UNEP



Eco-i Manual

Building Materials Supplement



Sierra Readymix, concrete supplier in Sri Lanka

» Building materials working group co-leads

Activity 1 Policy briefs on building materials & embodied carbon

Development of policy briefs on embodied carbon and building materials to feed into high level processes

Activity 2 Information Hub on Building materials and Products

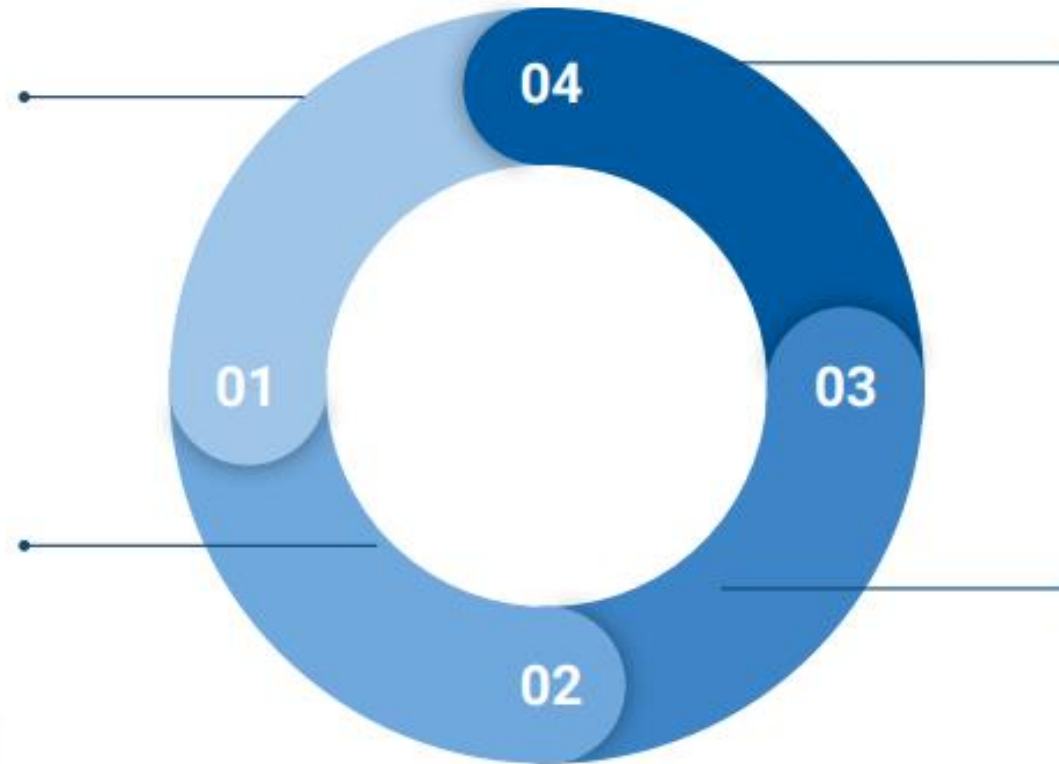
Support establishment and design of the hub and share/review potential resources and case studies to feature in the hub.

Activity 4 Support roadmap development

Strengthen, review and analyse the materials section in roadmaps

Activity 3 Circularity in NDCs

Support the development of and review the embodied carbon section of the UNEP-UNDP-UNFCCC user guide and toolbox for circular economy and NDCs

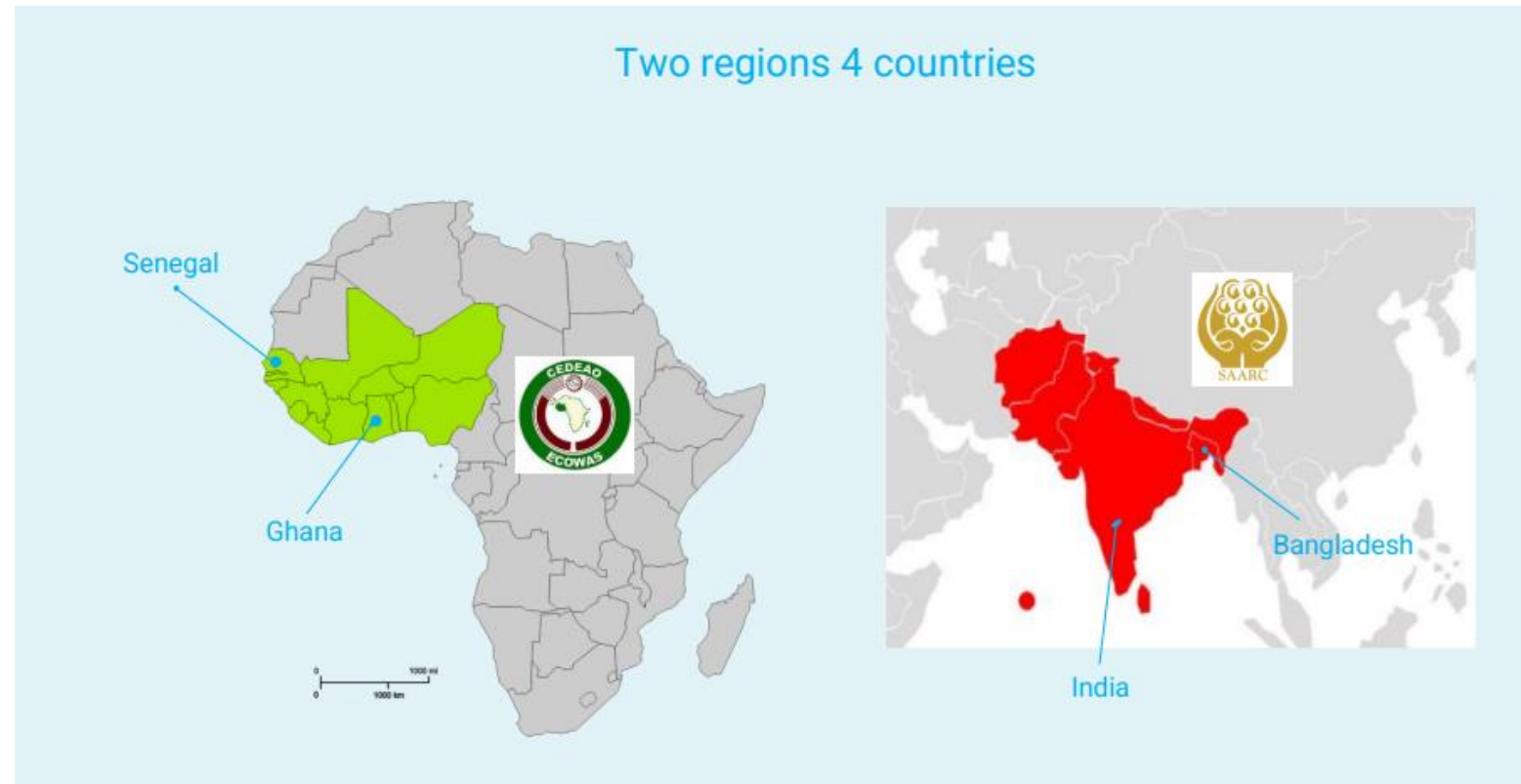


Co-leads:



Associated project

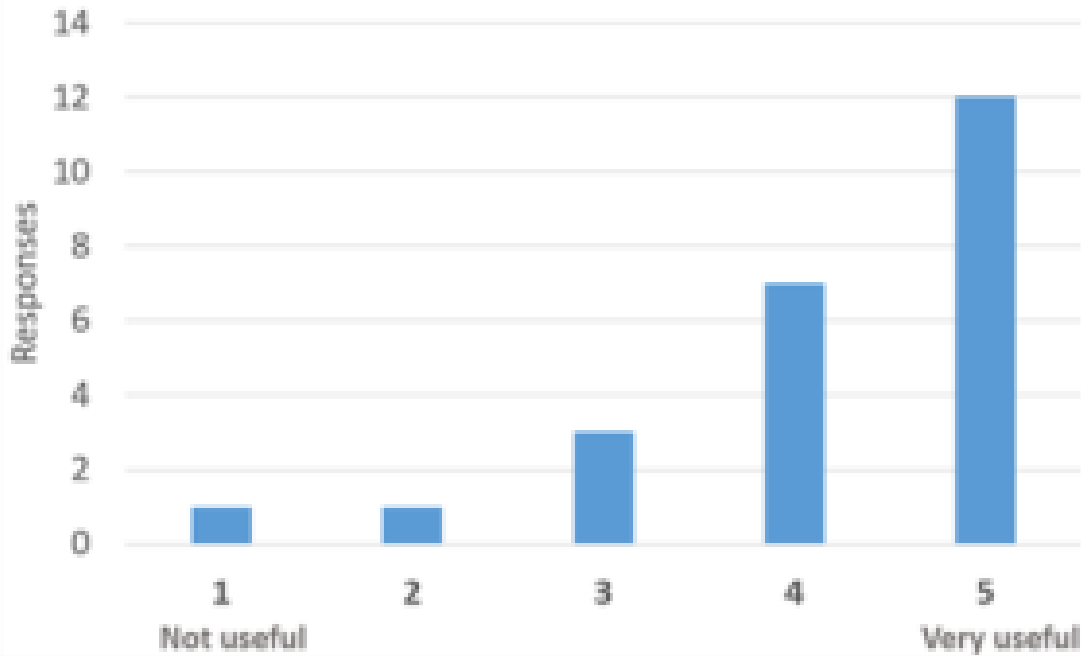
- **Transforming the Built Environment through Sustainable Materials** - BMZ/IKU funded project, implemented by UNEP
- Deployed in West Africa and South Asia
- Creation of an enabling framework and further market development for sustainable materials
- Encourage more ambition in NDCs
- Promote sustainable materials in high level international processes (COP, G7)



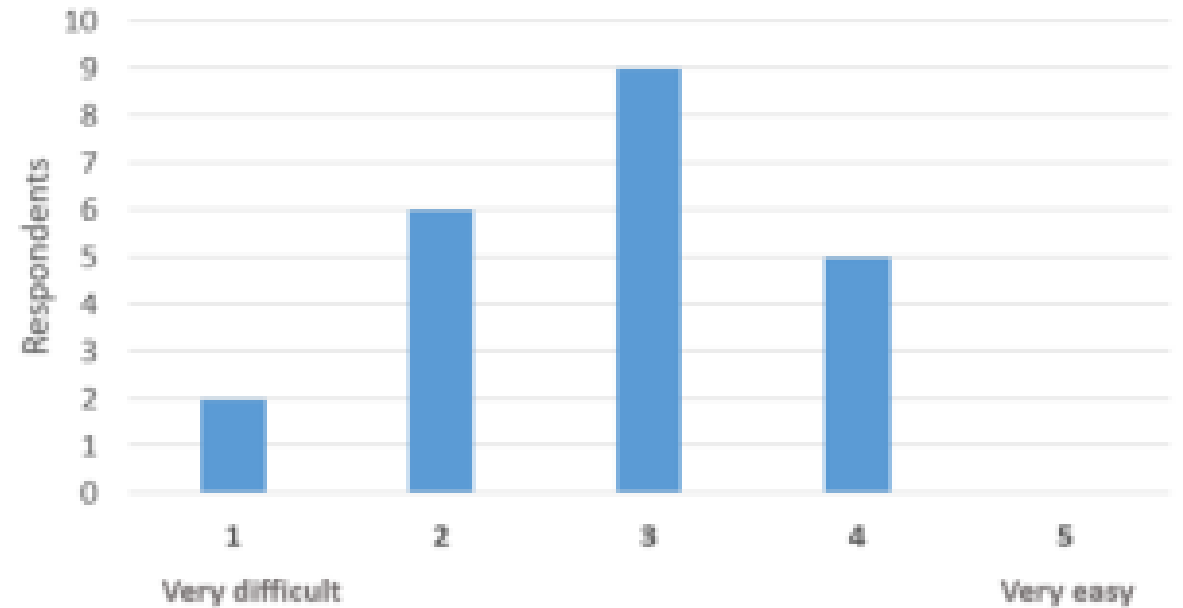
Hub scoping and development work to date

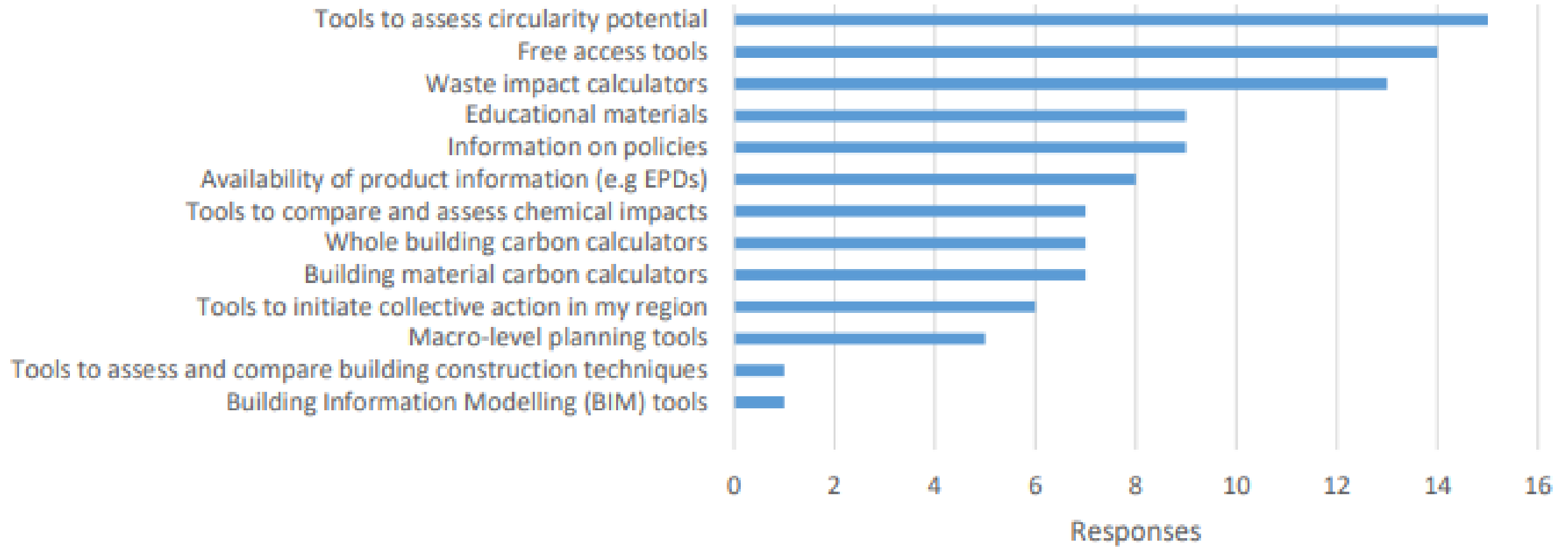
Survey findings

To what extent do you think a centralised information hub on building materials and products would be useful?



How easy do you find it to access the resources and tools on sustainability aspects of building materials that would help in your work?





Key findings of initial consultation

- Well defined audience (Policy makers and supporters)
- Appropriate regional consideration
- Support local and vernacular materials
- Usability and functionality
- Regularly updated content
- Effective governance on content

Recent development work: Trialling a structure and user journeys

- Initial website will be a BETA version, with expansion expected in 2023
- Understanding the user journeys and entry points
- Who are the users and how do we support them?
- Material agnostic approach preferred, that enables regional searching
- Consideration of policy types to accelerate sustainable materials – both new and existing

Content and draft structure

- Tools and calculators
- Case studies
- Educational resources
- Research papers
- Databases
- Policy briefings



Innovation and local materials

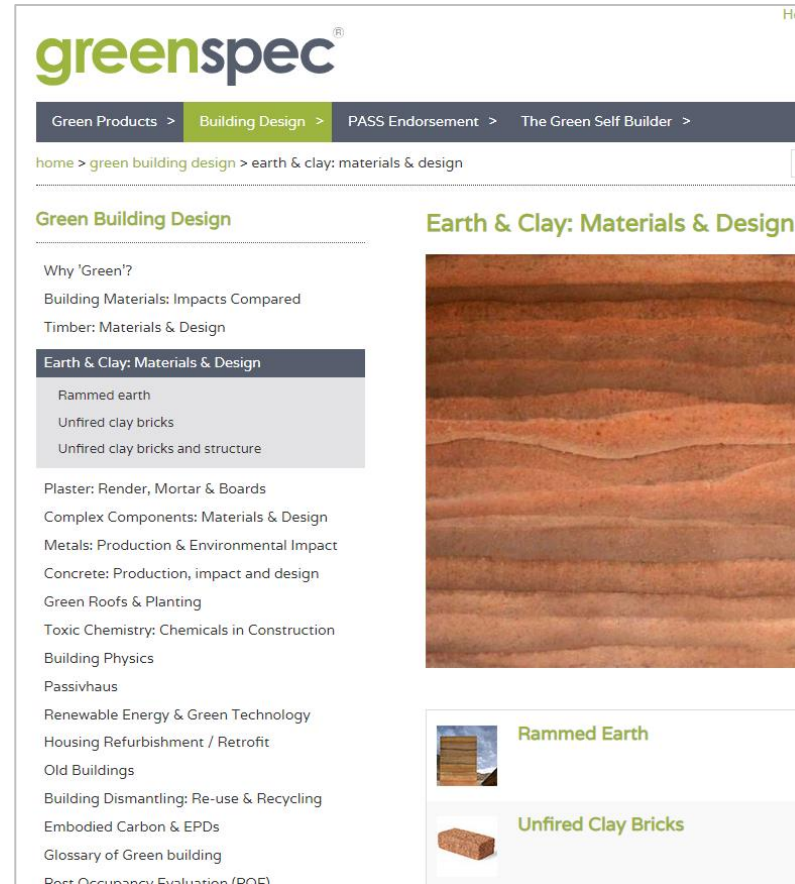


Education



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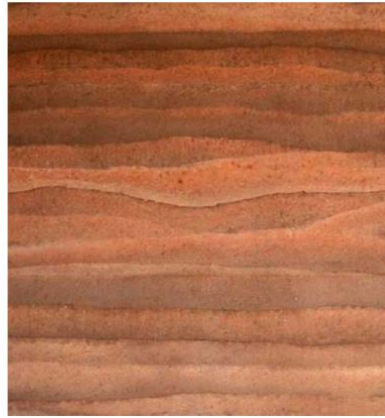
Green Products > Building Design > PASS Endorsement > The Green Self Builder >



home > green building design > earth & clay: materials & design

Green Building Design

- Why 'Green?'
- Building Materials: Impacts Compared
- Timber: Materials & Design
- Earth & Clay: Materials & Design**
 - Rammed earth
 - Unfired clay bricks
 - Unfired clay bricks and structure
- Plaster: Render, Mortar & Boards
- Complex Components: Materials & Design
- Metals: Production & Environmental Impact
- Concrete: Production, impact and design
- Green Roofs & Planting
- Toxic Chemistry: Chemicals in Construction
- Building Physics
- Passivhaus
- Renewable Energy & Green Technology
- Housing Refurbishment / Retrofit
- Old Buildings
- Building Dismantling: Re-use & Recycling
- Embodied Carbon & EPDs
- Glossary of Green building
- Post-Occupancy Evaluation (POE)

Earth & Clay: Materials & Design



-  **Rammed Earth**
-  **Unfired Clay Bricks**



Challenges and Opportunities of Using EPDs

When can EPDs be compared?

Three critical issues:

- Environmental impacts
- Functional equivalence
- Uncertainty

Watch on YouTube

Lowering the Embodied Environmental Impacts of Cement and Concrete (February 2020)



Lowering the Embodied Environmental Impacts of Cement and Concrete

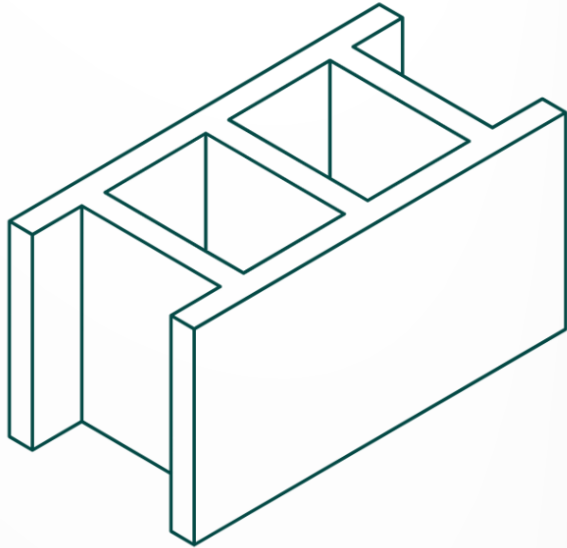
Composition, performance, and availability vary significantly

 Portland Cement	 Natural Pozzolans	 Calcined Clay
 Fly Ash	 Granulated Slag	 Post-Consumer Glass

Watch on YouTube

Improving data provision

Material Passport



Unique Identifier:
BLK-X-00001
 Name:
Hollow Block
 Material:
Concrete
 Dimensions (WxHxL):
215 x 215 x 440
 Method of Fixing:
Cementitious mortar
 Date of Manufacture:
04/2018
 Place of Manufacture:
United Kingdom
 Installed:
10/2020
 Maintenance History:
N/A
 Performance grade:
Band A
 Aesthetic grade:
Band 1

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MATERIAL COLLECTION

Flooring

It is hugely important to consider alternatives to vinyl (known more commonly as "PVC") flooring for a myriad of reasons. Firstly, as chlorine molecules are heated to high temperatures during the manufacturing, burning, and landfilling of PVC, a type of highly toxic chemicals known as **dioxins** are released. Dioxins not only persist in the body for years after exposure, but with links to cancer, reproductive disorders, and hormone disruption, they have been called **the most toxic man-made substance ever created**. PVC floors also contain phthalates, which are endocrine disruptors.

It is important that designers seek **healthier alternatives in linoleum, cork, natural rubber, or bio-based materials** that avoid any inclusion of vinyl.

Flooring 18 products

CATEGORY ▲	SUB-CATEGORY ▲	MANUFACTURER ▲	PRODUCT ▲
Pourables and Aggregates	Stone	Duracryl International	Durabella Terrazzo 📄
Resilient	Biobased	Patcraft	Ecosystem LEC NEW
Resilient	Biobased	Shaw Contract	Innate + In Tandem LEC NEW
Resilient	Limestone	Armstrong Flooring	Biobased Tiles ●

Key principles and functionality of the Hub

Strategy approach

Avoid



- Premature demolition
- Chemicals of concern in building materials
- Material waste

Shift



- Biobased materials
- Design for modularity/dismantling
- Vernacular materials

Improve



- Lower carbon concrete mixes
- Circularity processes

Adapt

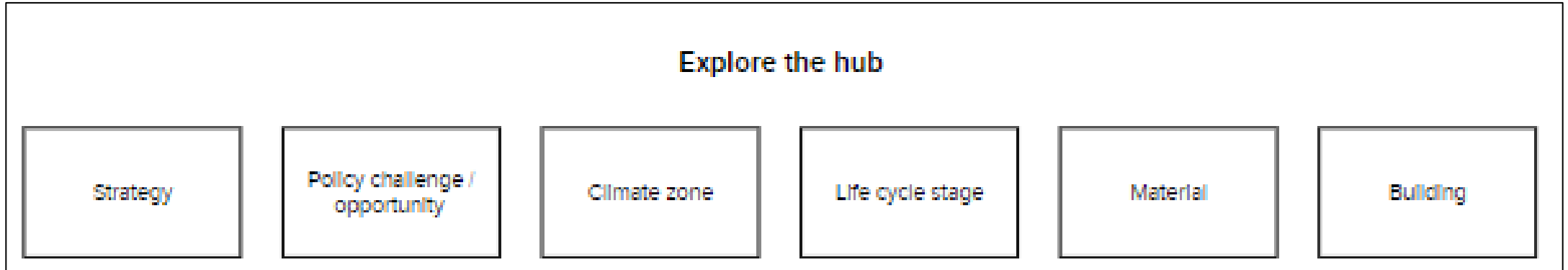


- More locally resilient supply chain
- Climate-adaptative materials, products and designs

Figure 3 Embodied carbon policies in this report visualized per carbon reduction impact



Entry points



Question: what are the key entry points for users?

Audience: Policy makers at all levels, those supporting policy development

Next steps

- Final stages of scoping phase, mainly to define technical web design aspects
- Aim to agree on the model for the hub's structure
- Further consultation to be held on resources to include
- Aiming for build and launch of BETA version by end of 2022 by GlobalABC web development team

Further inputs welcomed

- Joining working group calls
- Recommending contacts to join the working group, particularly related to policy
- Suggesting resources

Thank you