

Transformative change in green construction and energy efficiency

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Sustainable Buildings and Construction Programme (SBC)

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www.oneplanetnetwork.org/sustainable-buildings-and-construction

SBC Multi-stakeholder Advisory Committee (MAC)

Governments

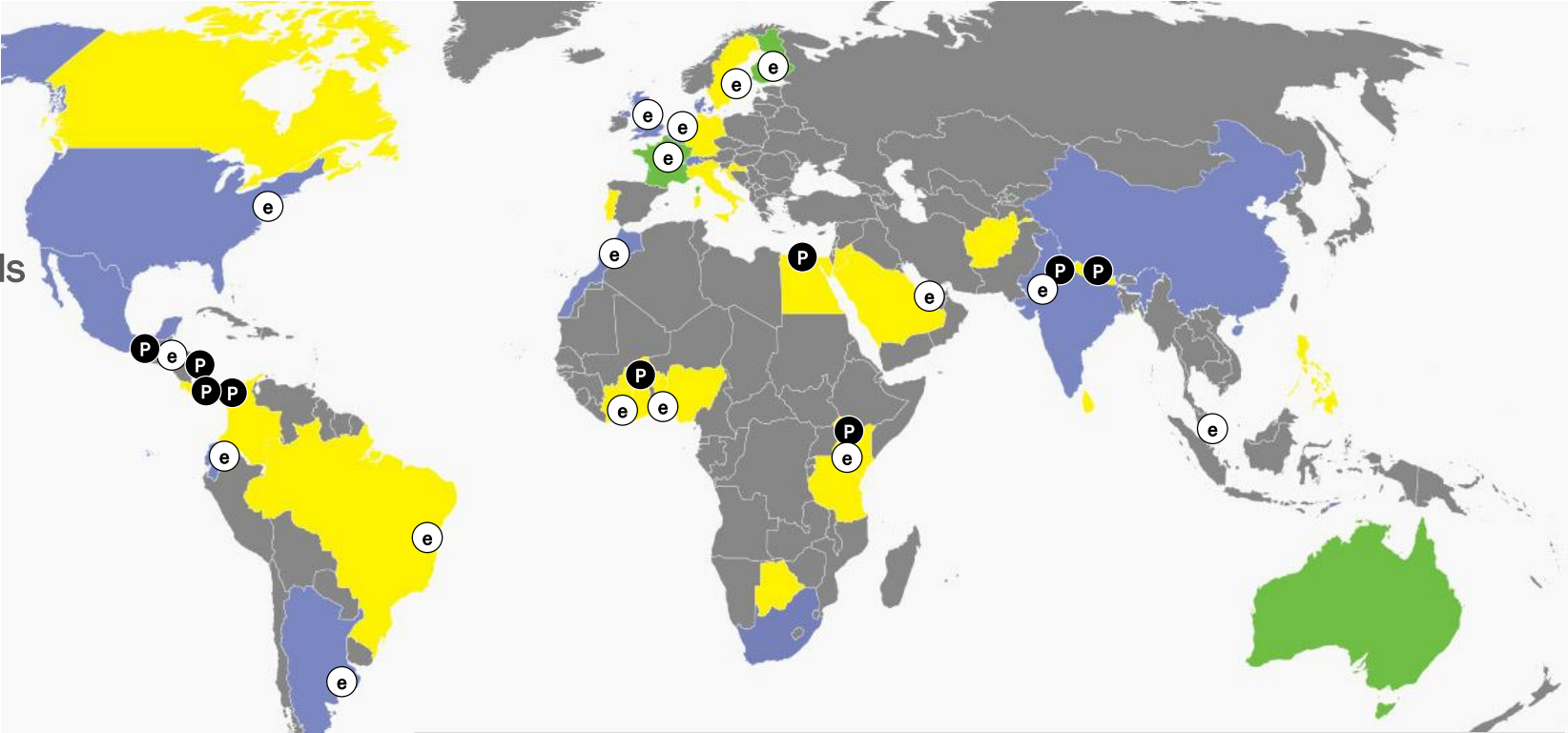
- Argentina
- GIZ, Germany
- SEMARNAT, Mexico
- IRESEN, Morocco
- RWS, The Netherlands

Industry

- GAUGE, South Africa
- Sweco, Finland

Academia

- AMUE, France
- CABR, China
- UPF, Morocco
- YALE, US



P Trust Fund projects	■ Coordination Desk
e Examples of SBC Events (COP, HIII, WUF, ...)	■ Multi-stakeholder Advisory Committee
	■ Partners

Civil society

- Bioregional, UK
- DevAlt, India
- Ecosur, Nicaragua
- Energies2050, France
- RICS, Belgium
- TERI, India
- WWF, US/Sri Lanka

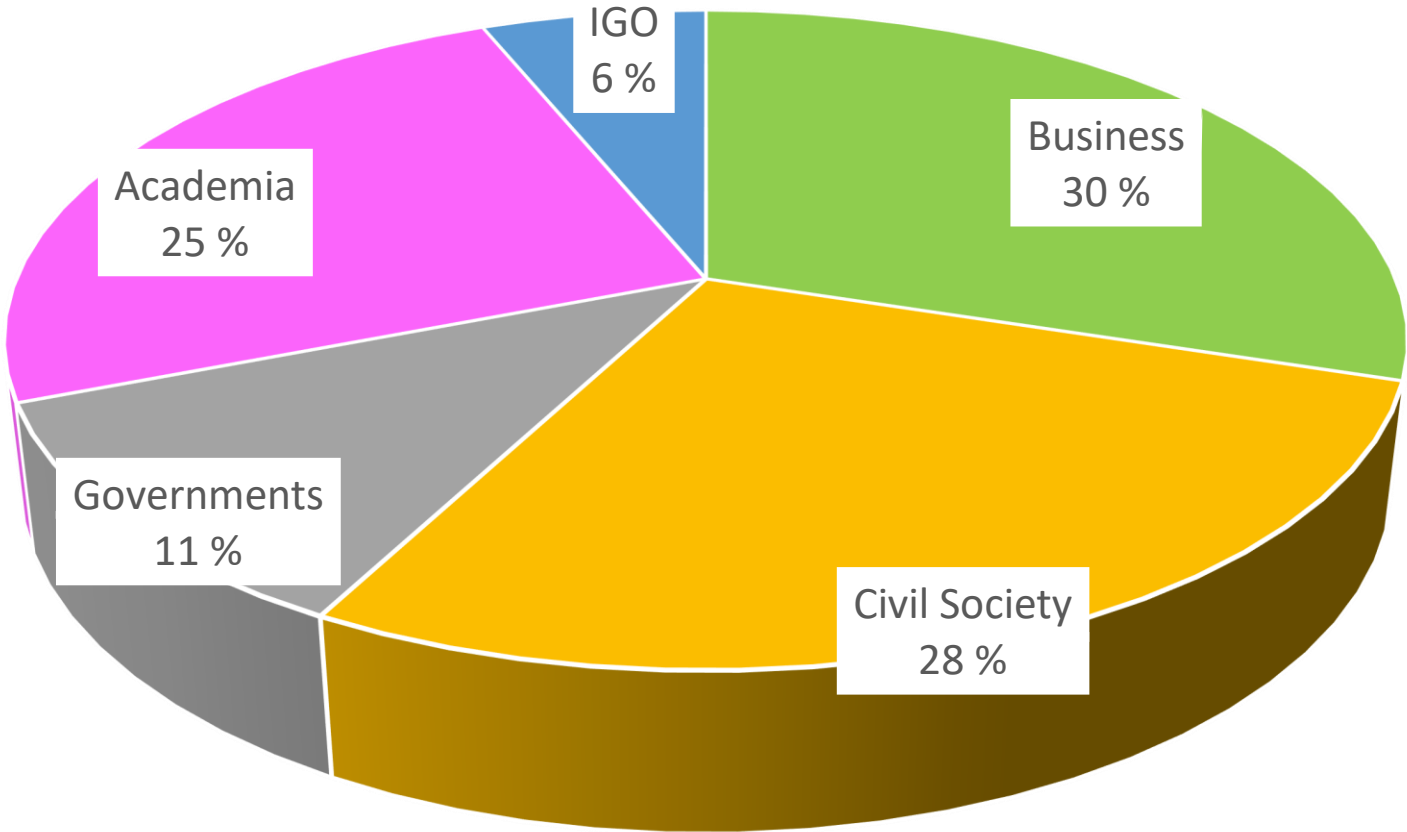
Intergovernmental organizations

- GGGI, South Korea
- IFC, US
- OECD, France
- UN-Habitat, Kenya
- UNOPS, Denmark

Coordination Desk



SBC Partner Network



101 organizations from 47 countries

SBC Results

Five Trust Fund Projects

- Aburrá Valley: Sustainable policies Colombia
- MaS-SHIP Decision Support Toolkit in India
- SHERPA design tool: Burkina Faso, Kenya, Nepal, *Nicaragua*, ... (en, fr, es)
- Sustainably Sourced Concrete: Colombia, Costa Rica, Panama
- Nabta Smart Town: Energy Efficiency in Egypt

Multi-Partner Trust Fund Project

- UN-Habitat, UNEP, UNOPS + UN Country Teams

Outreach Activities

- COP21 Le Bourget, COP22 Marrakech, COP23 Bonn, COP24 Katowice, COP25 Madrid/Stockholm
- Habitat III Quito
- World Urban Forum 9 Kuala Lumpur, World Urban Forum 10 Abu Dhabi
- WCEF2017 Helsinki, WCEF2019 Helsinki, WCEF2020 Side Events
- HLPF 2018 New York
- WBC16 Tampere, SBE16 Tallinn, WSBE17 Hong Kong, SBE19 Helsinki, WSBE20 virtual

SBC Workplan 2021-22

Summary

In 2021-22 the One Planet Network Sustainable Buildings and Construction Programme will continue its work on circular built environment and responsibly sourced materials. Our main activities include

- providing tools and information to support governments in resource efficient transformation in 'SDG12 Resource Efficient Housing' MPTF project
- validating the Country approach methodology in committed partner countries
- proposing relevant 2030 Agenda circularity indicators to stakeholders based on an international survey and regional workshops, and updating CBE recommendations to be adopted in practice
- disseminating SBC results in key events, such as COP26, WBC22, and various publishing channels
- defining the SBC legacy beyond 2022.

Built environment impacts

High resource use, environmental impact, employment

The BE consumes 40% of total global raw materials used

Capital and ongoing life cycle impacts

30% global material waste

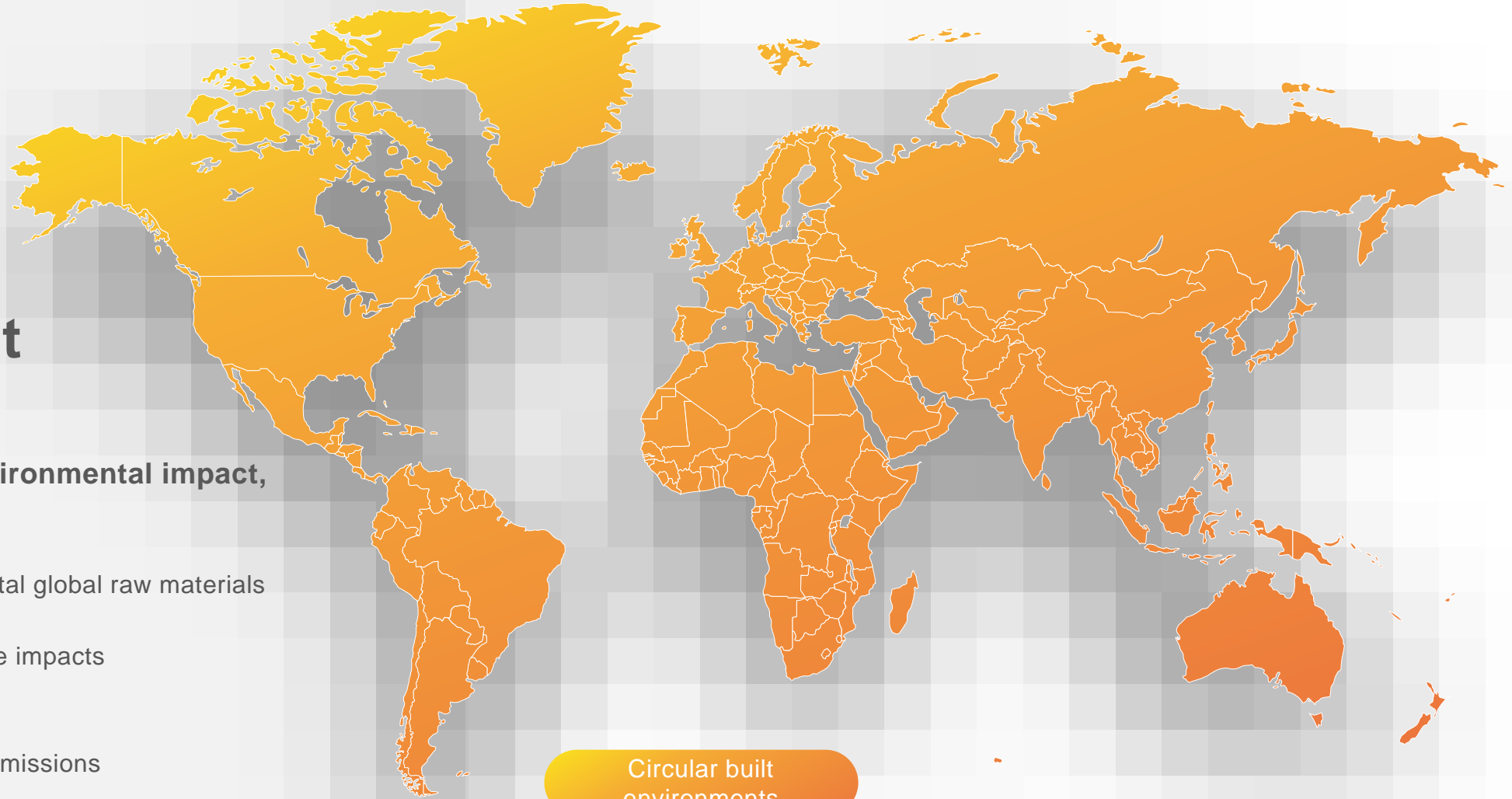
40% energy related CO₂-e emissions

30% water use

Attributes 6% of the global GDP

Employs 10% of the global workforce

Many informal workers



Circular built environments

Material use will double by 2060

Cement, sand, gravel, limestone, steel are the main materials

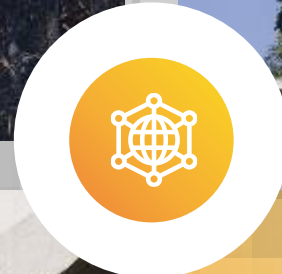
What does circular economy mean?

What?

Circular economy is about: designing out waste, keeping materials and products circulating in the system, optimising resources, providing long lasting solutions so we do not draw on the use of virgin resources, and regenerating natural systems.

Why?

Building stock will double by 2050 in Asia, Africa and Latin America. Global material use will double by 2060. Building materials comprise a third of material use. Concrete will contribute to 12% of GHG emissions by 2060.



Where?

Focus will be on the new growth regions of the world, in Africa, Asia, Latin America and the Caribbean. By 2050, almost 90% of the world's population is expected to be in urbanized Asia and Africa.

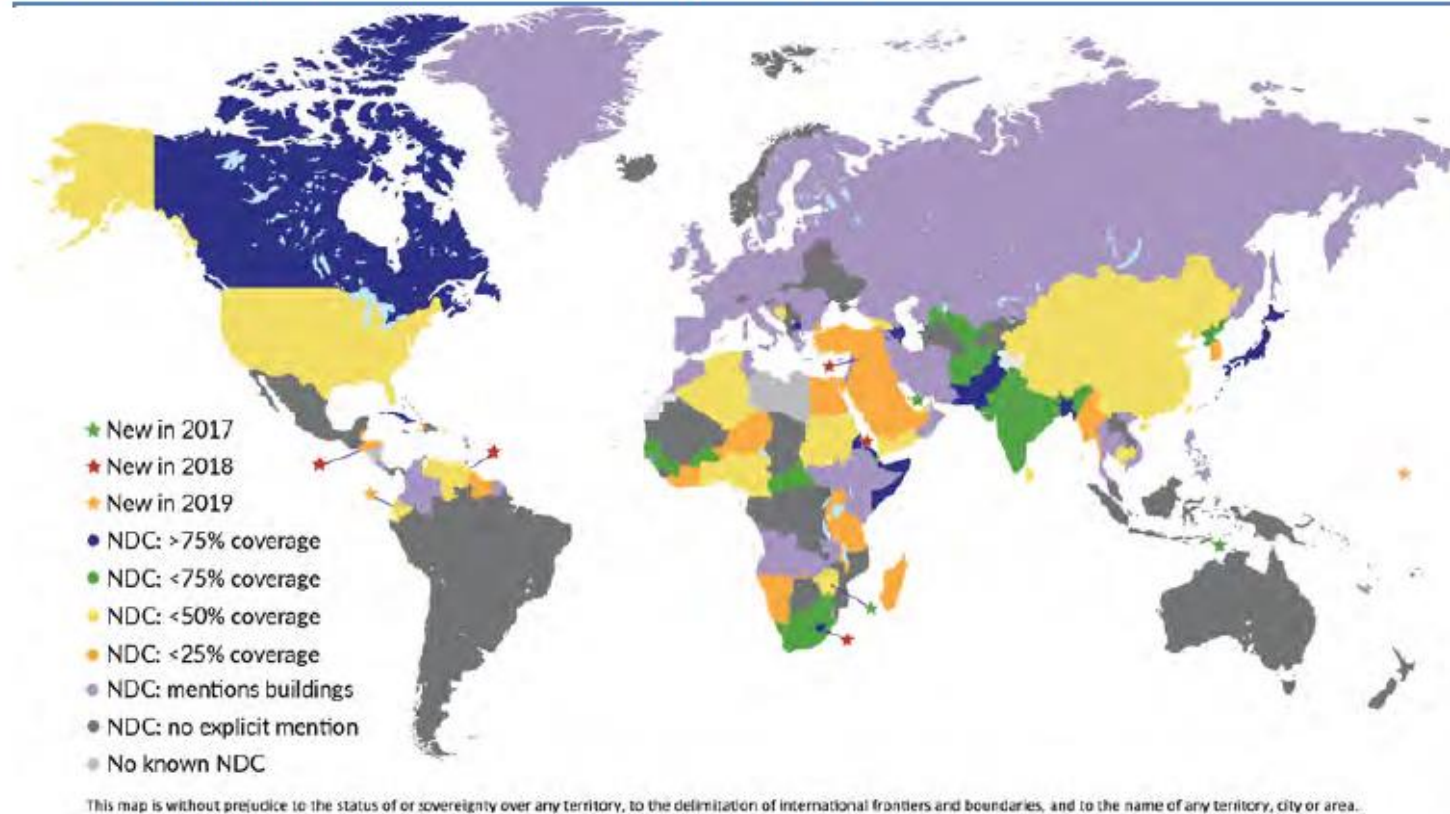
Advantages:

- Reduce and eventually eliminate the use of virgin resources.
- Reduce and eliminate environmental impact.
- Support local jobs and local economies

What are the main elements of an enabling policy environment for sustainable buildings?

NDCs and building sector

Map 1 • Buildings sector emissions coverage in NDCs, 2018-19



IEA (2019). All rights reserved.

Source: Global Alliance for Buildings and Construction, International Energy Agency and the United Nations Environment Programme (2019): 2019 global status report for buildings and construction: Towards a zero-emission efficient and resilient buildings and construction sector

Many options available

Mandatory options

- NDCs
- Green/energy efficient building codes
- Policing for continuous improvement
- Synergistic relationships for planning and building
- Government- leading by example
- Procurement practices

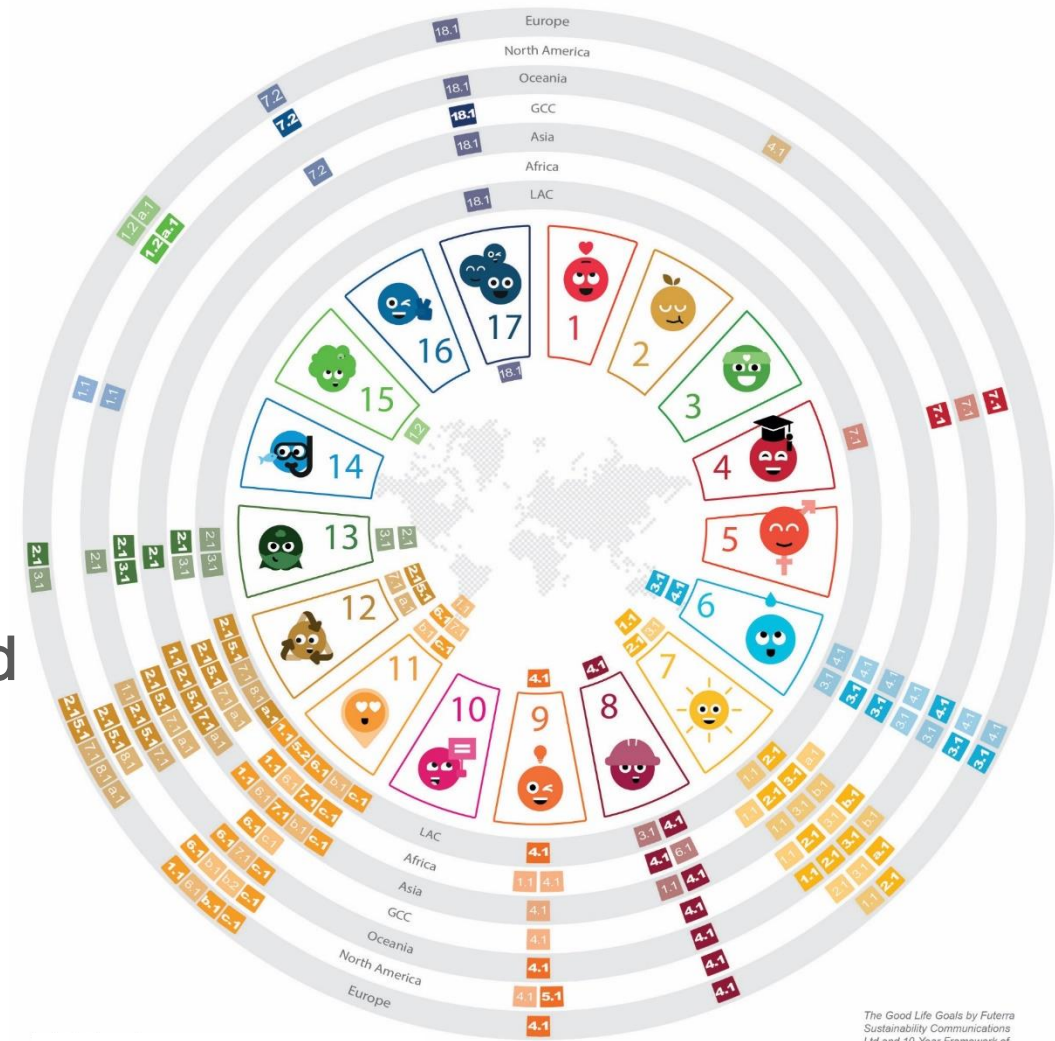
Voluntary options

- Industry led – green building councils
- Leadership through local planning and building mechanisms
- Role of assessment schemes
- Client demands
- Industry professional organisations

Circular Built Environment

Global recommendations

1. Think and act differently now and in the near future
2. Monitoring and reporting is essential
3. Lifecycle considerations at the outset of planning and design
4. Building materials are the essential building blocks for the built environment
5. Procurement processes need to be considered
6. Adaptation and resilience will be needed
7. Locally adapted solutions and practices need to be encouraged
8. New business models
9. Overhaul of education and skills
10. Collaboration and financing agreements



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New business models

Collaboration and financing

Locally adapted solutions



Education and skills

- New vocational/trade skills, higher ed
- Circular maintenance skills
- Circular renovation
- Waste microgrids

Education and skills



Adaptation and resilience

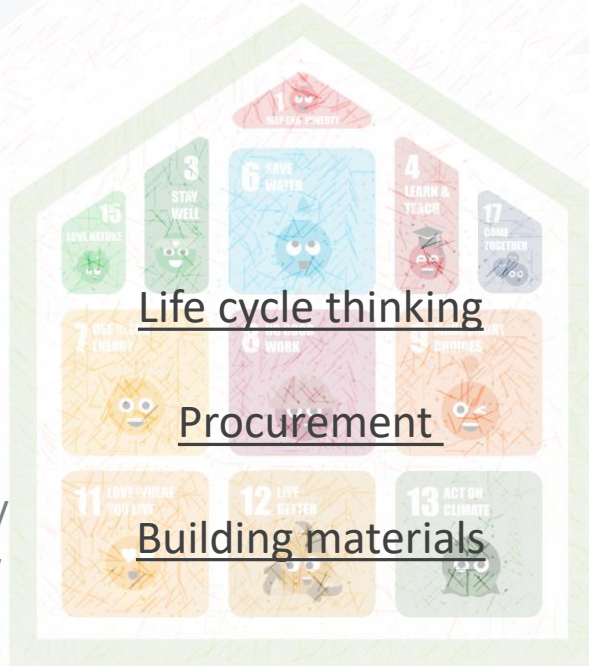
- Responsibly sourced materials, local tech, ren energy
- Diversity in the supply chains
- Skilling and reskilling needed

Think and act differently: linear to circular

- Government to lead
- Industry to innovate supply chain
- Clients and consumers

Sustainable procurement

- Value add services
- New markets to be explored
- Repair and consider durability
- Collaborate to anticipate new standards and regulations



Life cycle thinking

- Capital cost
- Operating cost
- Building footprint
- Up-skilling
- Green jobs and green skills



Building materials and waste

- Material reuse
- Bio-based materials

New business models

New business models and technologies

- From owning to sharing/renting
- New opp from green design and valuation
- New procurement models
- Building passports
- High value recovery products in renovation

Local solutions and practices

- Local engagement and local knowledge
- Support economy, local jobs
- Multiplicity of solutions supporting local

Collaboration and financing

- Apolitical collaboration bet various stakeholders
- Changing existing practices with circularity in mind



Education and skills

Monitoring

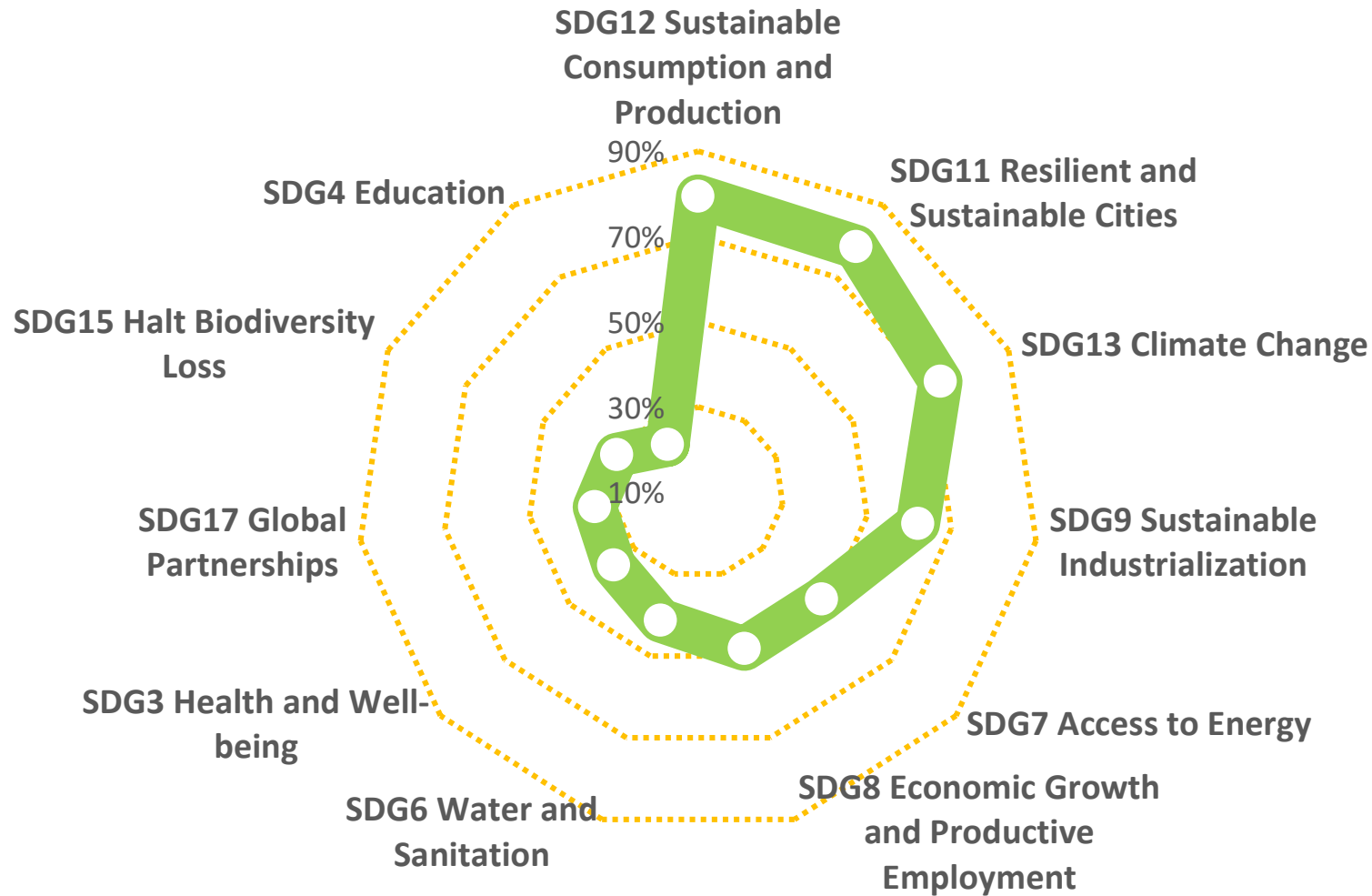
and

reporting

Monitoring and reporting

- 12 SDGs out of 17
- SDG 12, 11, 13, 9, 7, 8, 6, 17, 3, 15, 4, 1
- Core indicators: 12.2.1/8.4.1, 12.5, 11.c.1
- 10 secondary ind:
9.4.1, 11.6.1, 7.2.1, 6.3.1, 6.4.1, 7.1.2,
13.2.1, 12.7.1, 11.1.1, 12.a.1

Sustainable Development Goal Survey

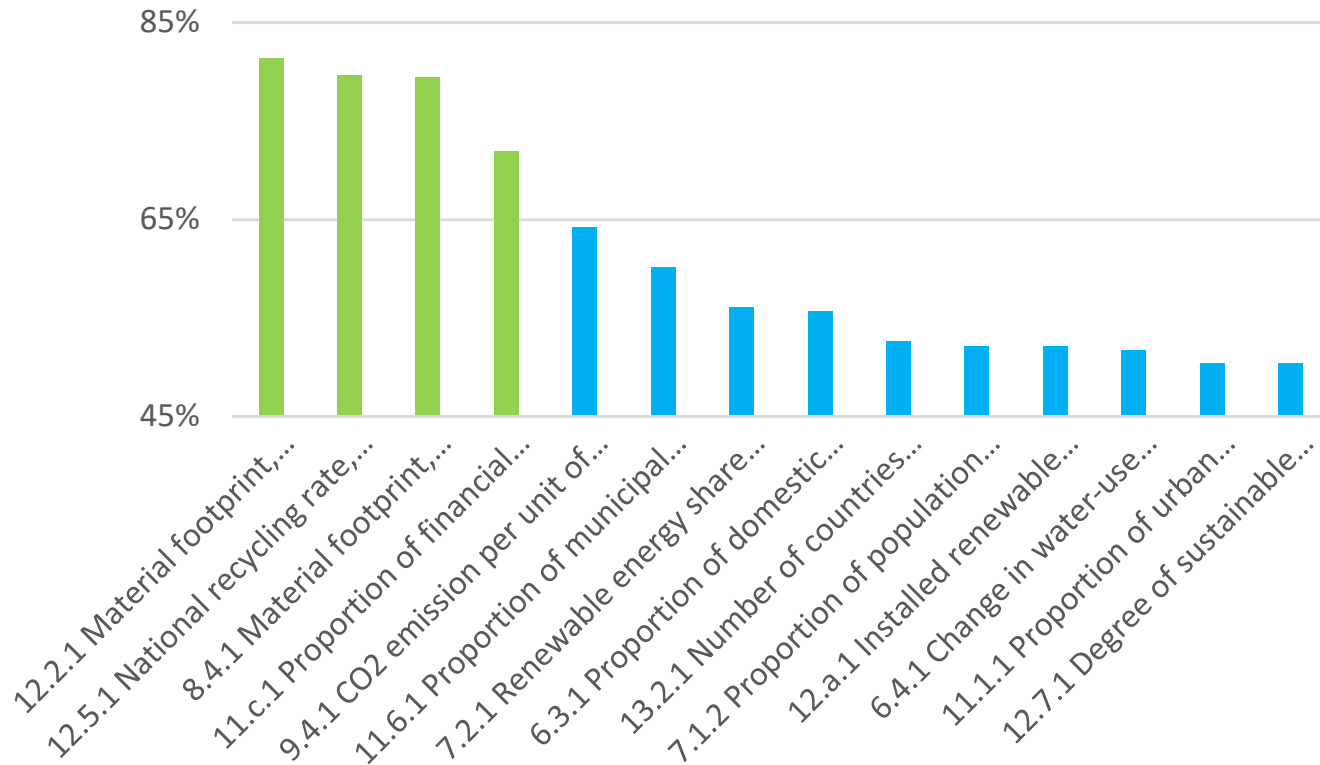


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Indicator Survey

Four Core Indicators

- 8.4.1 / 12.2.1 Material footprint
- 12.5.1 Recycling rate
- 11.c.1 Local materials



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Indicator Survey

Ten Secondary Indicators

- 6.3.1 Wastewater safely treated
- 6.4.1 Water-use efficiency
- 7.1.2 Reliance on clean fuels
- 7.2.1 Renewable energy share
- 9.4.1 CO2 emissions
- 11.1.1 Inadequate housing
- 11.6.1 Municipal solid waste
- 12.7.1 Public procurement policies
- 12.a.1 Renewable energy
- 13.2.1 NDCs, strategies, NAPs

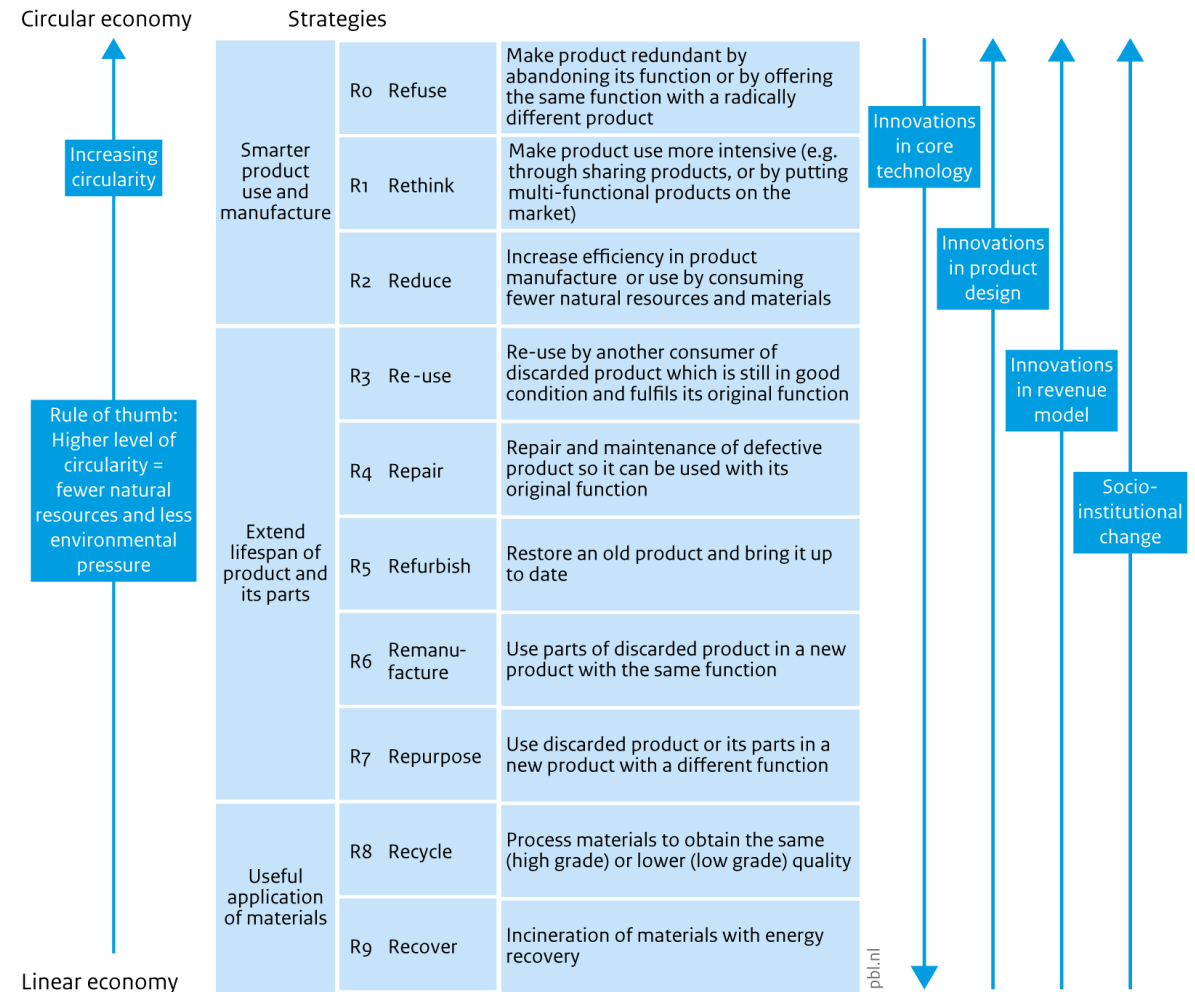


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In the context of rescue and recovery, how can investments be mobilized for sustainable building?

Banks, insurers and investors

- Integrate and transition organisation strategy
- Manage linear and circular risks
- Develop sectoral competences and integrate with commercial activities.
- Monitor job creation and destruction from the transition



Source: Potting et al (2017). The 9R Framework

Banks, insurers and investors

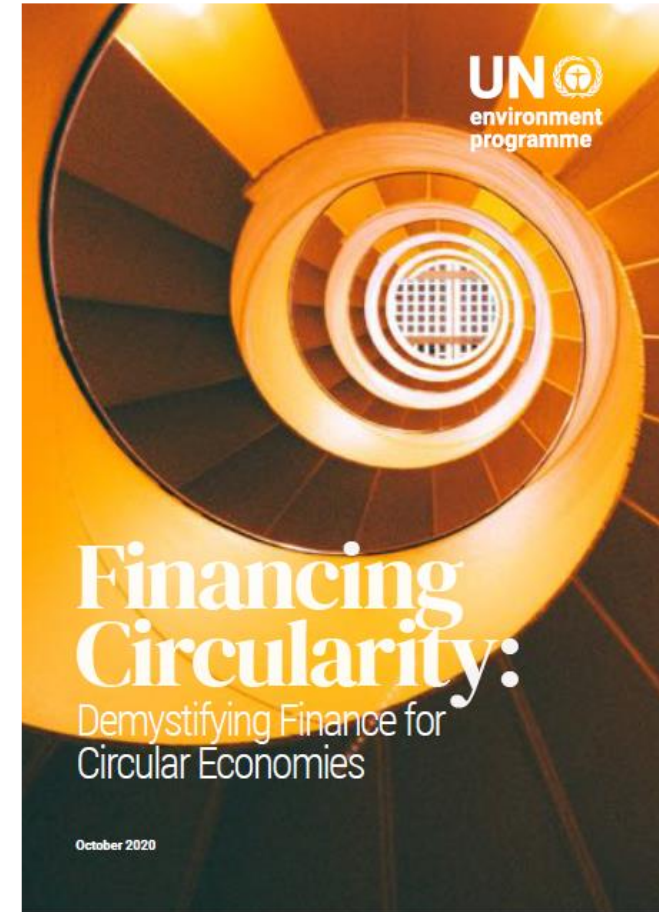
- Raise awareness of material efficiency and resource flows
- Evaluate how your industry can contribute to financing under key frameworks
- Measure CE finance on your balance sheet and grow the CE finance footprint of lending, investment and insurance activities
- Contribute to standardisation of CE metrics and financial instruments



Source: <https://www.unpri.org/upcoming-events/pri-digital-forum-climate-and-nature-action/7445.article>

Polymakers, financial industry regulators

- Integrate measures to bring transition to existing and planned climate policies, rules and regulations
- Build back better for circularity
- Implement transition related policies, laws and related instruments



Source: UNEP Finance Initiative(2020), Financing Circularity: Demystifying Finance for Circular Economies



Join Our Network!

