

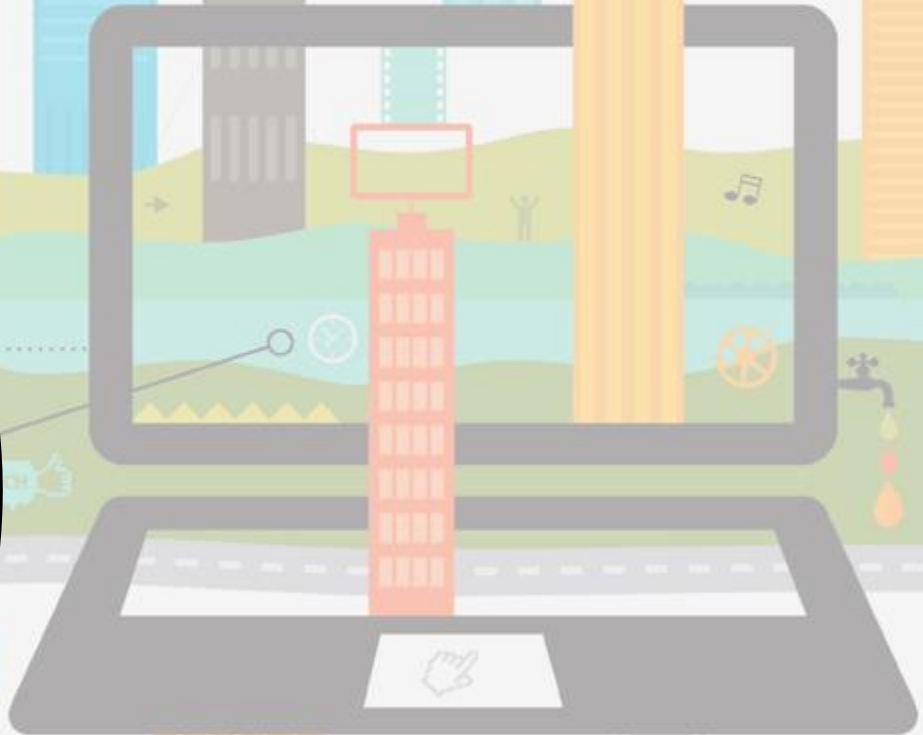
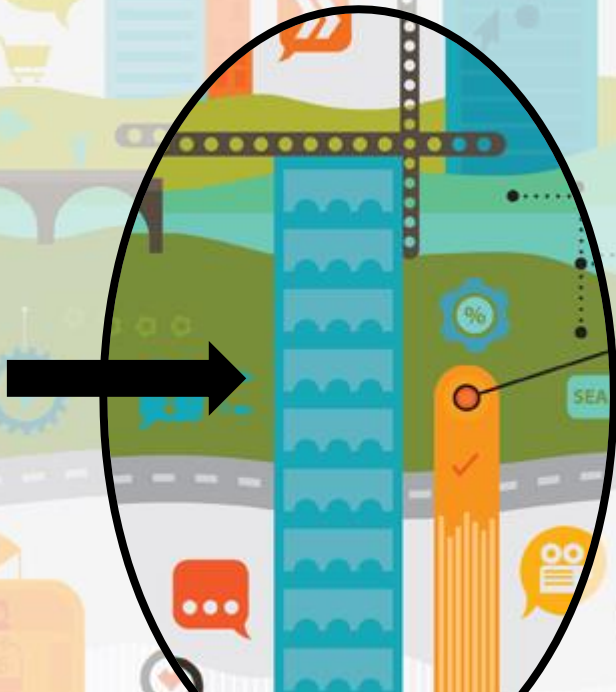
Enabling the Circular Economy in the Built Environment

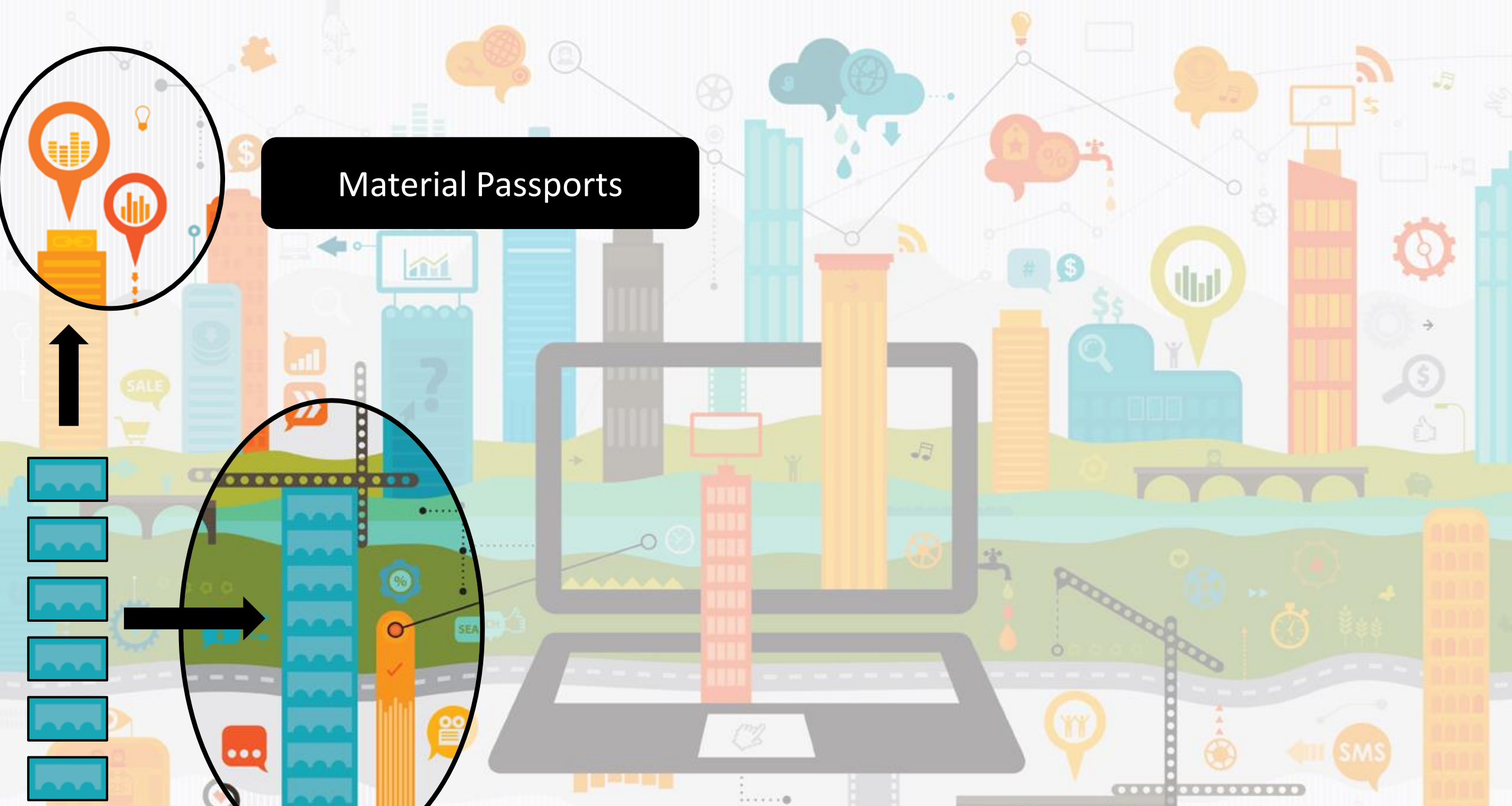
The role of policymakers

How does a **circular built environment** look like?



Design for Deconstruction

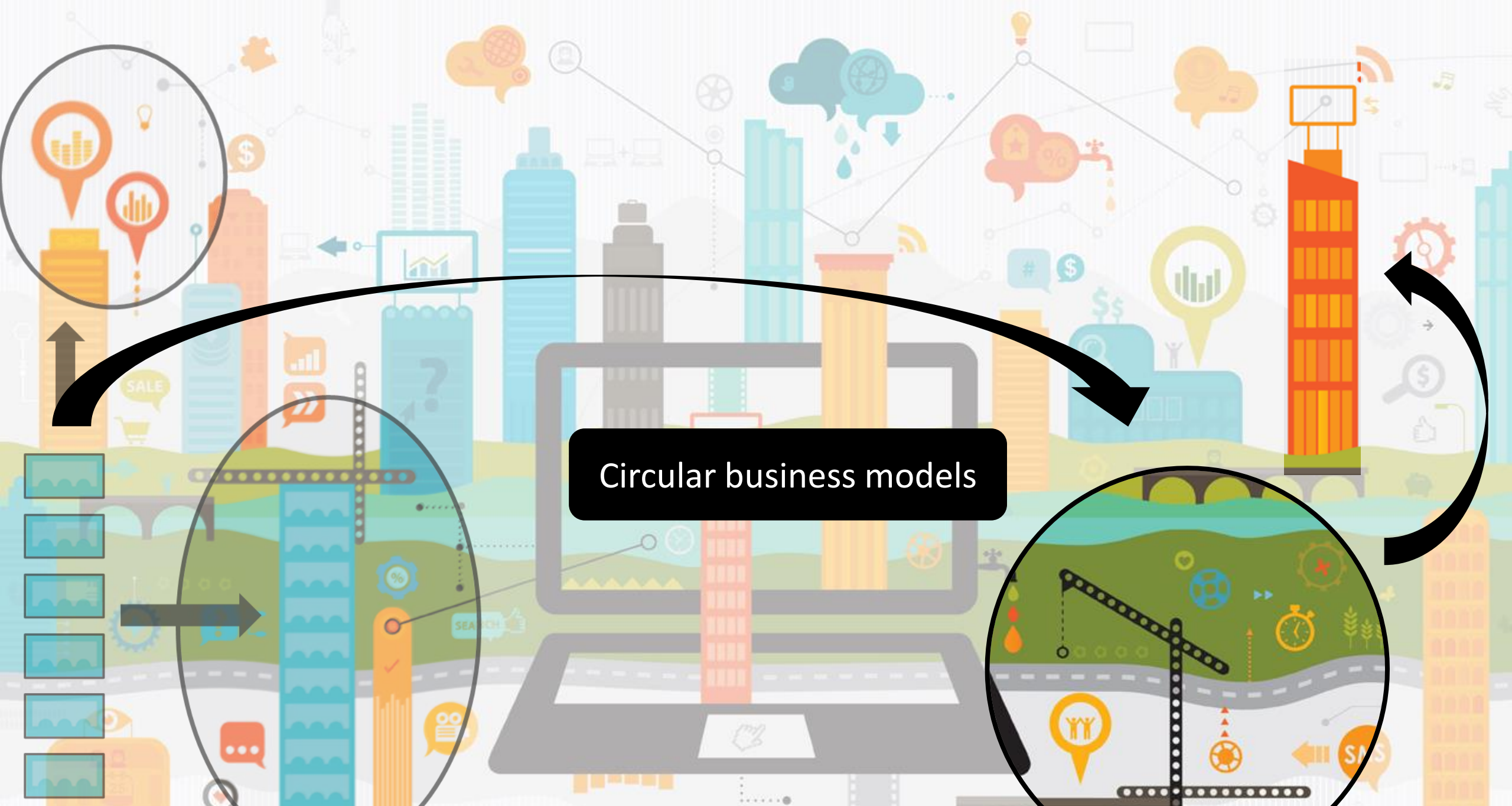




Material Passports

Urban mining





Circular business models

How can **policymakers** enable the circular economy in the built environment?

Creating national and regional **circular economy action plans** to guide states and cities in their own programs and regulations



Brussels, 11.3.2020
COM(2020) 98 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

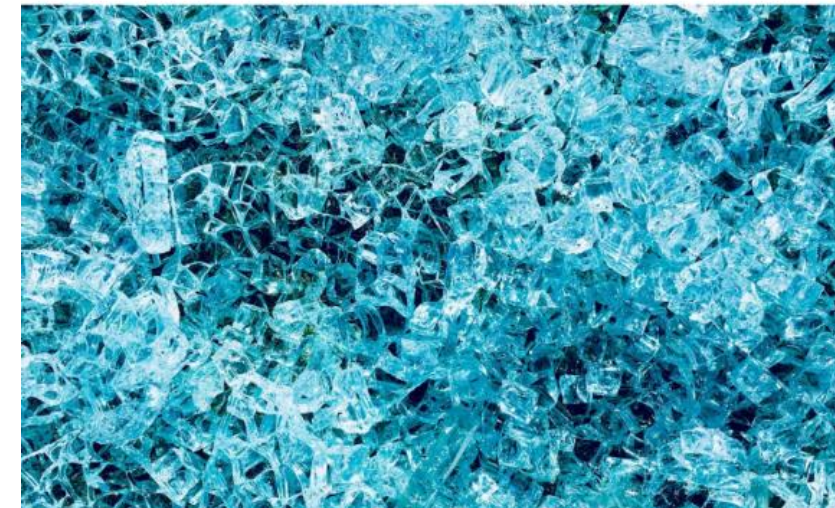
A new Circular Economy Action Plan
For a cleaner and more competitive Europe



Australia's National
Science Agency

NATIONAL Circular economy roadmap for plastics, glass, paper and tyres

Pathways for unlocking future growth opportunities for Australia
JANUARY 2021



Creating educational campaigns to raise public and stakeholders' awareness about the circular economy



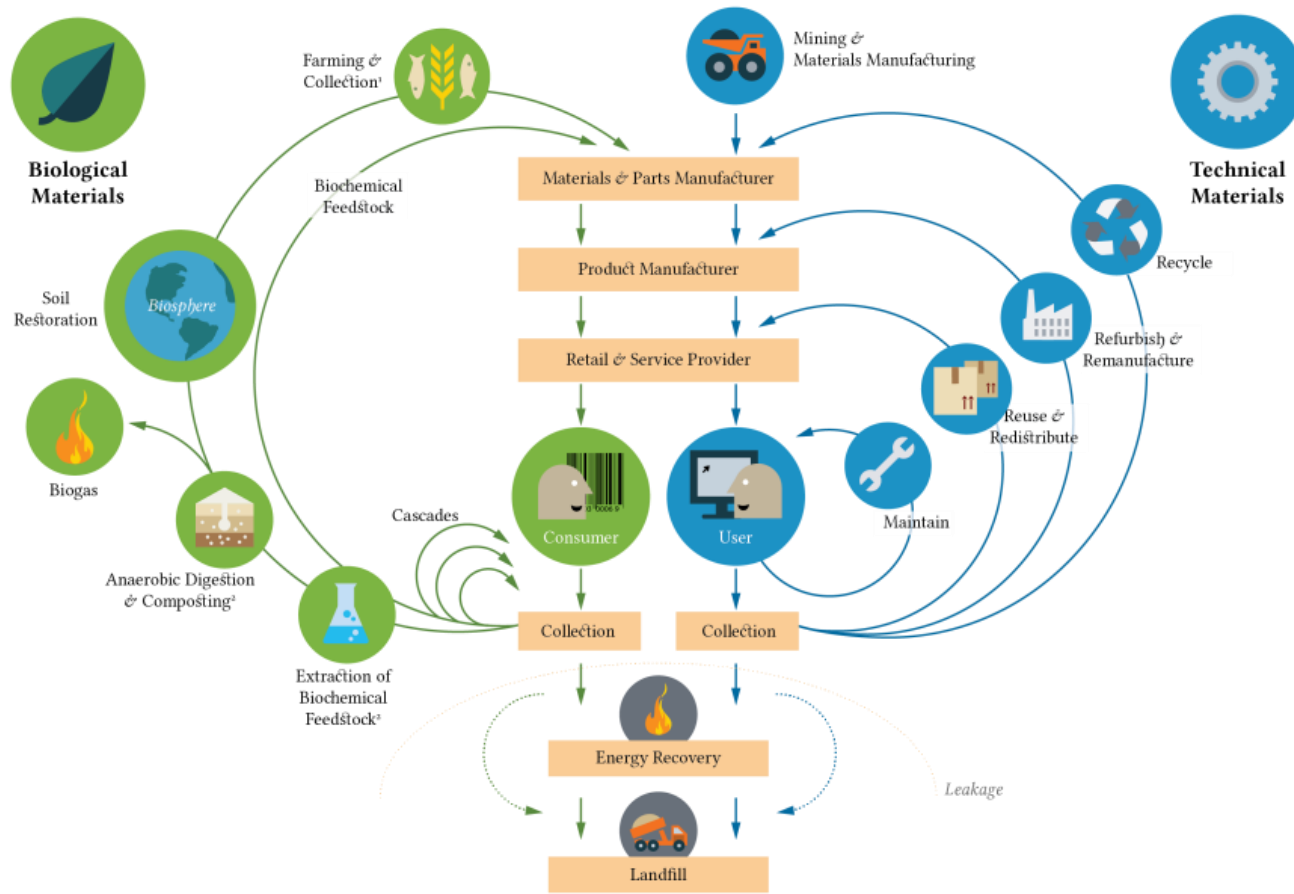
Circular economy educational campaigns in Italian schools.

Source: <https://circulareconomy.europa.eu/>

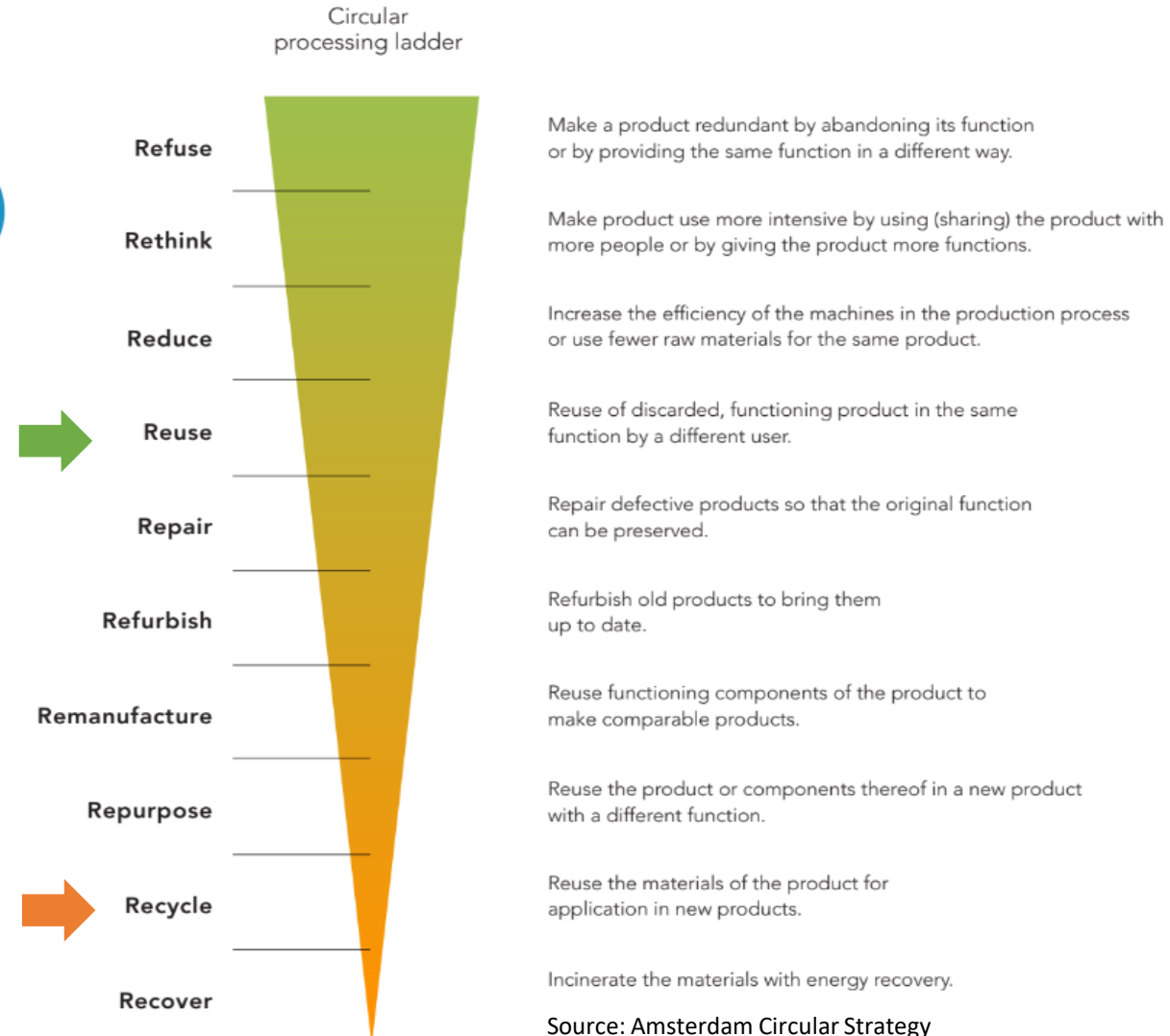


Circular economy illustration to educate stakeholders. Source: <https://www.cisco.com/>

Creating landfill diversion targets and zero waste policies that differentiate between reuse and recycling



Source: Ellen MacArthur Foundation



Incorporating circular economy principles into public procurement

CIRCULAR PROCUREMENT MODELS

1. System level

- Product service system
- Public Private Partnership
- Cooperation with other organisations on sharing and reuse
- Rent/lease
- Supplier take-back systems including reuse, recycling, refurbishment and remanufacturing

2. Supplier Level

- Supplier take-back system
- Design to disassembly
- Reparability of standard products
- External reuse/ sale of products
- Internal reuse of products

3. Product

- Materials in the product can be identified
- Products can be disassembled after use
- Recyclable materials
- Resource efficiency and Total Cost of Ownership
- Recycled materials

(Source: SPP Regions Best Practice Report)

Source: Public Procurement for a Circular Economy (European Commission)



Incorporating circular economy principles into public procurement

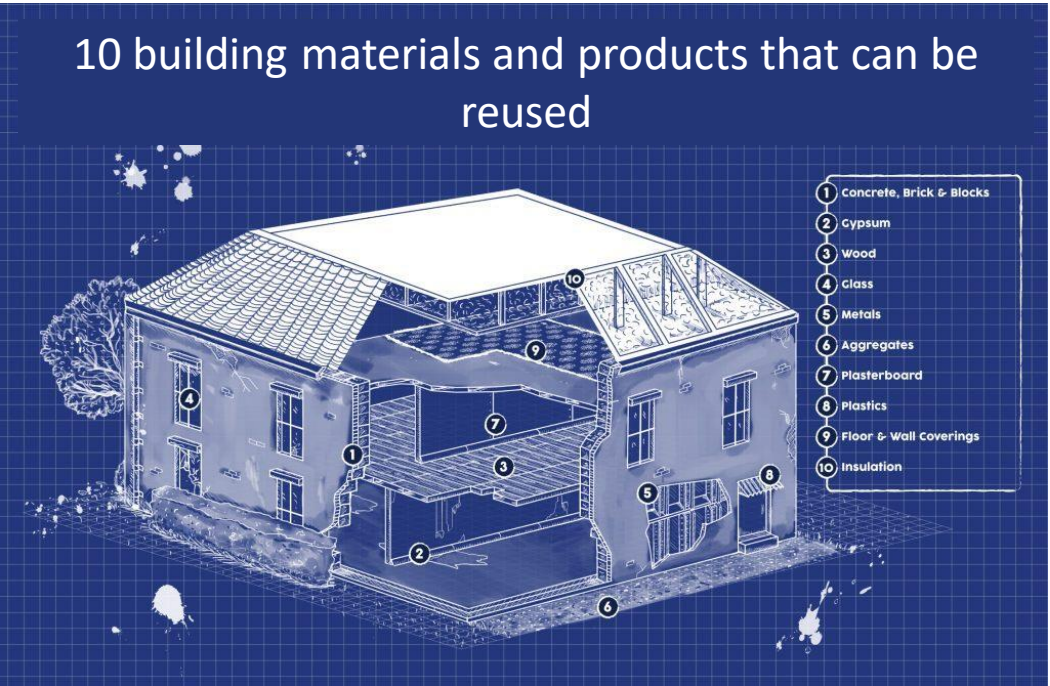
A circular road



Source: Amsterdam Circular Strategy



Establishing **targets** for salvaged components in new construction



10 building materials and products that can be reused. Source: ArchDaily

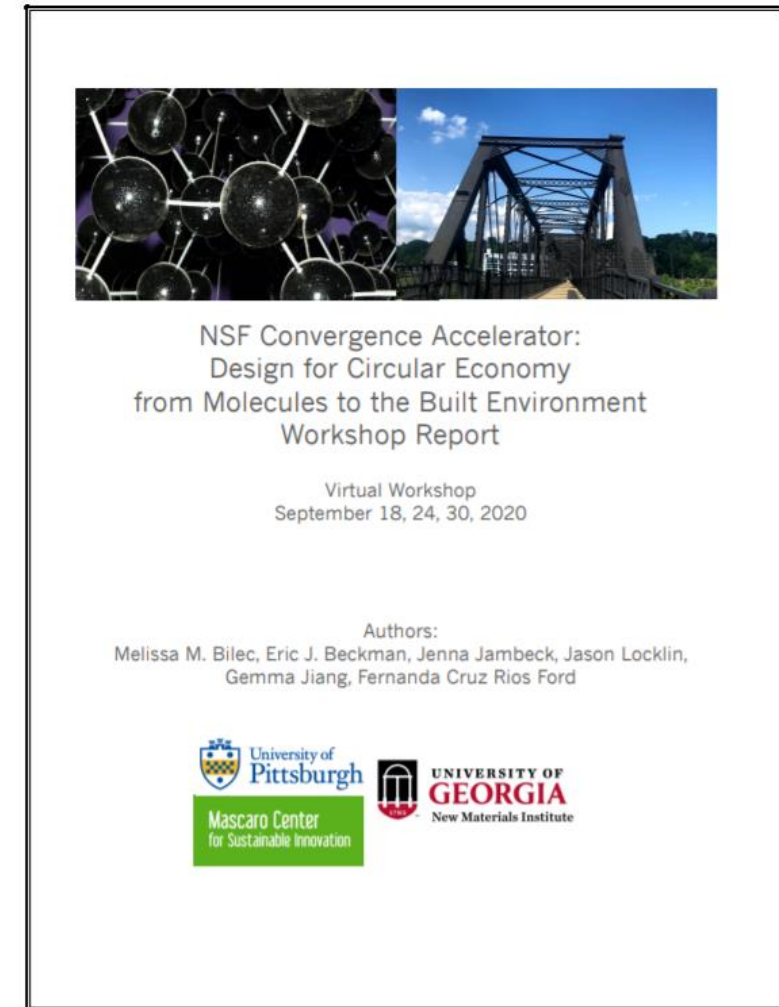


Resource Rows building in Copenhagen, Denmark. Source: ArchDaily



Allocating federal funding to **research and development** initiatives focused on circular economy

- Improving current **environmental assessment methodologies** to better address closed-loop systems
- Innovative **biobased materials**
- Innovative technologies to **disassemble** buildings
- **Material passports** technology
- Technologies and processes for **testing salvaged materials**
- Development of **metrics and indicators**
- Circular economy **pilot projects**
- Mapping **material flows and building components stocks**



Source: <https://beta.nsf.gov/>

Allocating federal funding for **research and development** initiatives focused on circular economy



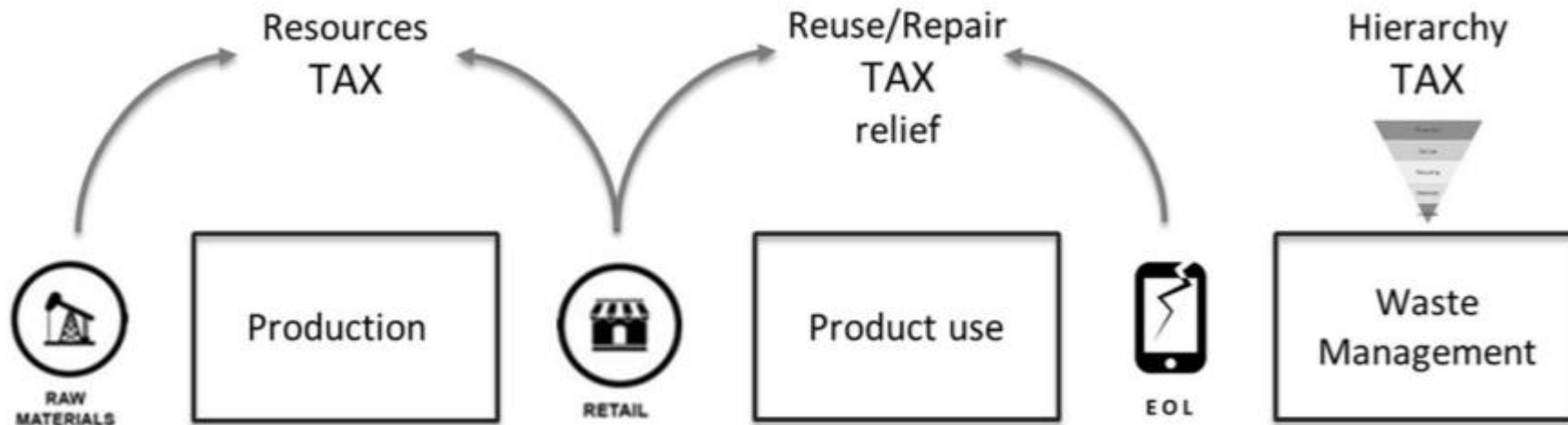
Current estimated material stock for the City of Melbourne, for selected materials.
From Stephan, A. & Athanassiadis, A. (2017). Quantifying and mapping embodied environmental requirements of urban building stocks. *Building and Environment*, 114, p. 187-202.

Promoting a **construction regulation reform** to incorporate circular economy strategies and eliminate burdens to material reuse



Source: <https://archinect.com/>

Creating **fiscal incentives** for circular economy



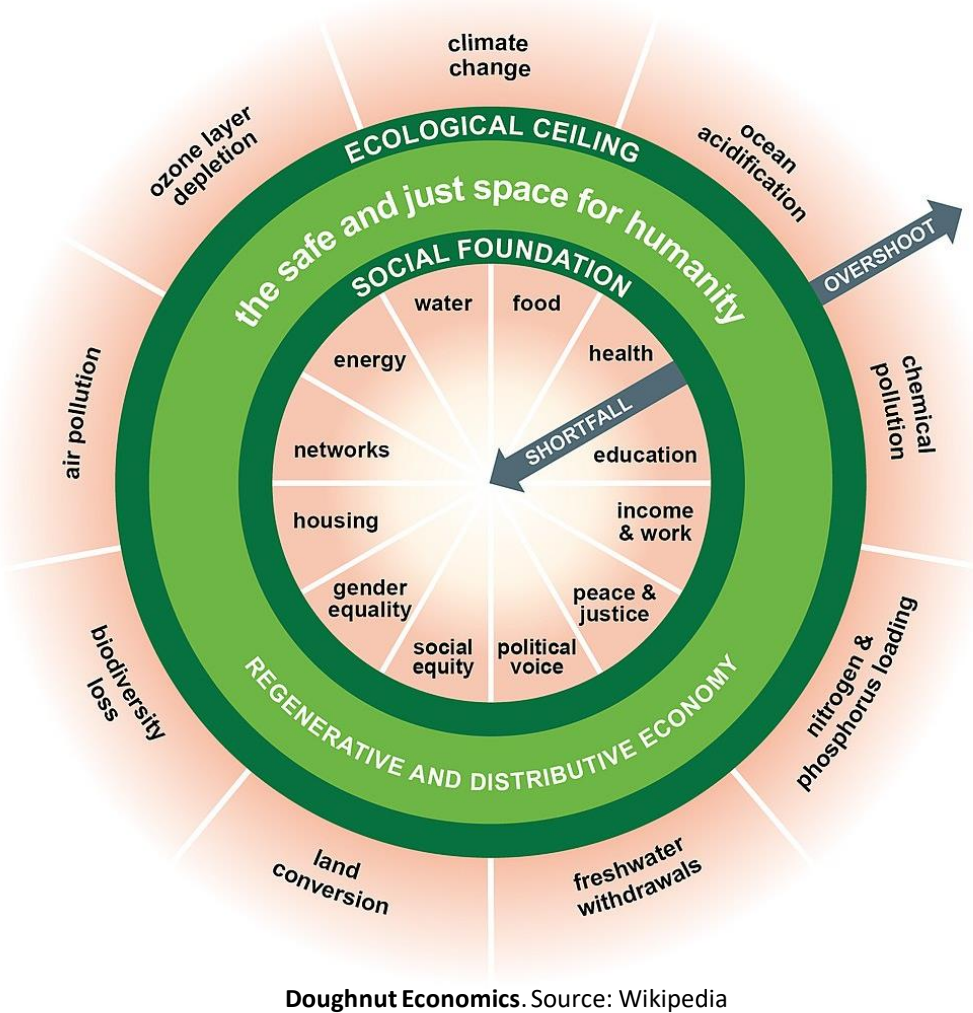
Circular economy taxation framework

From Milios, L. (2021). Towards a Circular Economy Taxation Framework: Expectations and Challenges of Implementation. *Circular Economy and Sustainability* (1), p. 477-498.

Other examples:

- Creating **subsidies** for companies engaging in circular economy practices
- Raising taxes on **new construction**
- Creating tax relief for building **adaptive reuse**
- Creating polluter-pays taxes for building's **embodied energy**

A final word: economies are for the people



Source: NewDream.org

Thank you!

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