



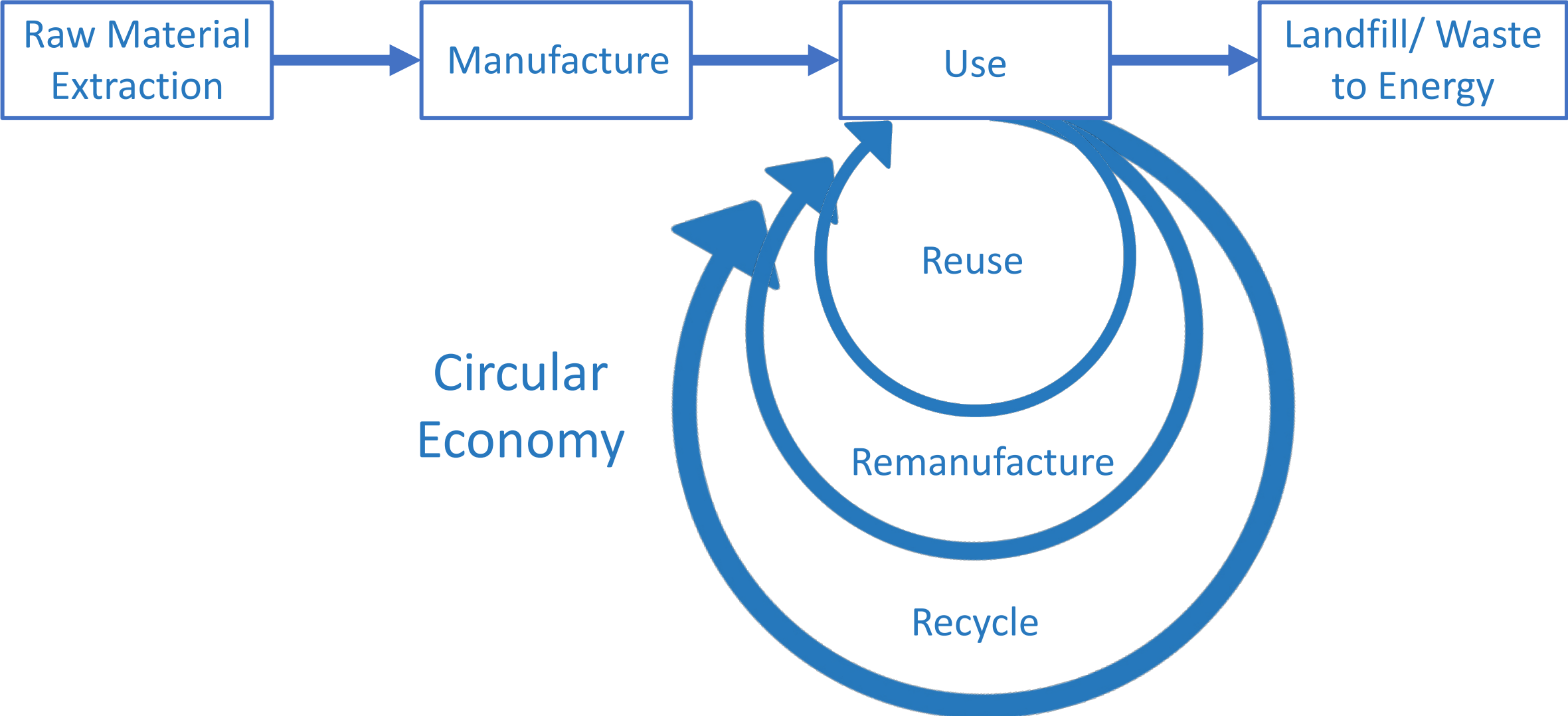
CARDIFF
UNIVERSITY

How the Circular Economy can help universities save money, reduce GHG emissions & avoid waste

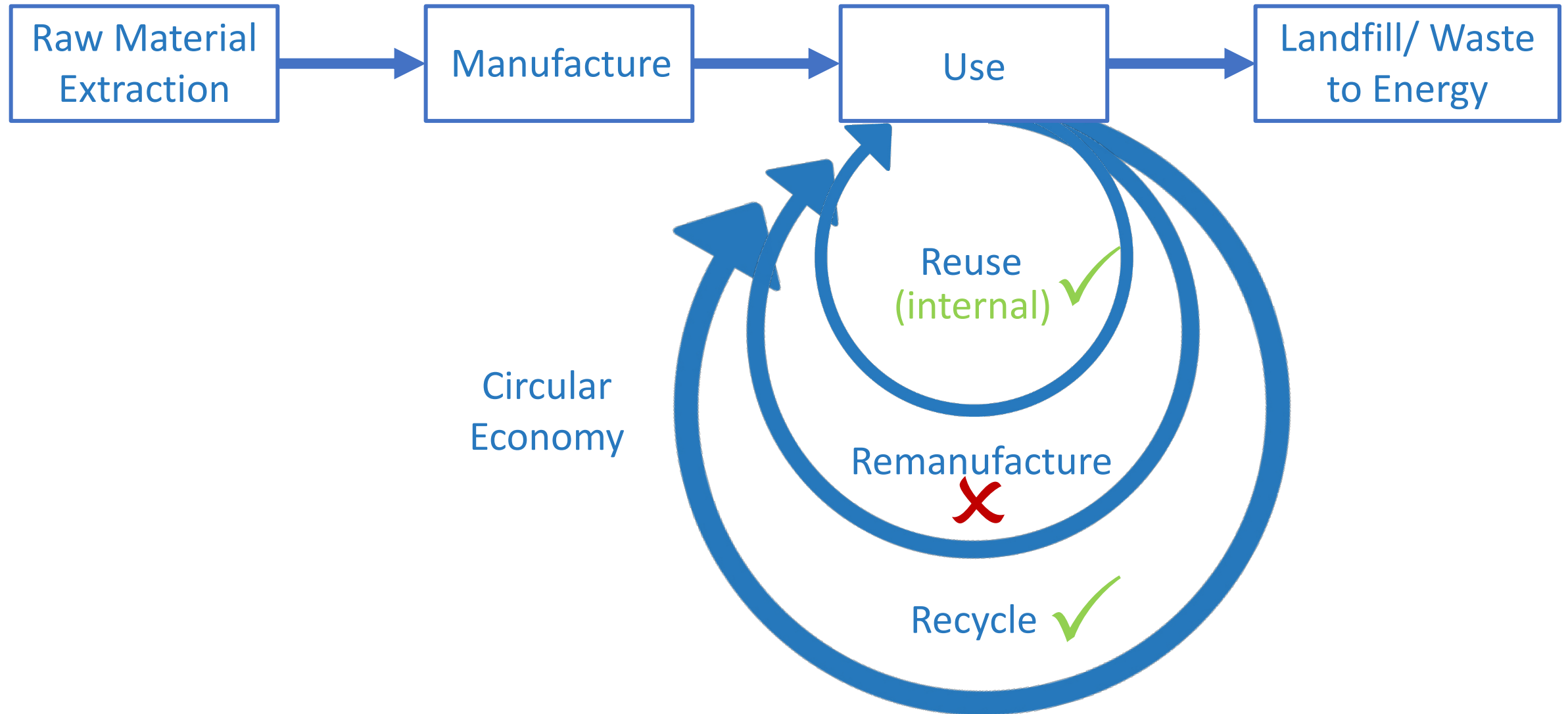
Dr Greg Lavery, Rype Office

Dr Carolyn Strong, Cardiff Business School

The Circular Economy



The Circular Economy



What is remanufacturing?



An engineering process that takes the long-life elements of an item, checks, repairs and resurfaces them and then rebuilds the item around them.

- 66% saving on list price
- 80% GHG emission reduction
- Avoids waste
- Local jobs for long term unemployed with disabilities
- Supports local SMEs & Social Enterprises

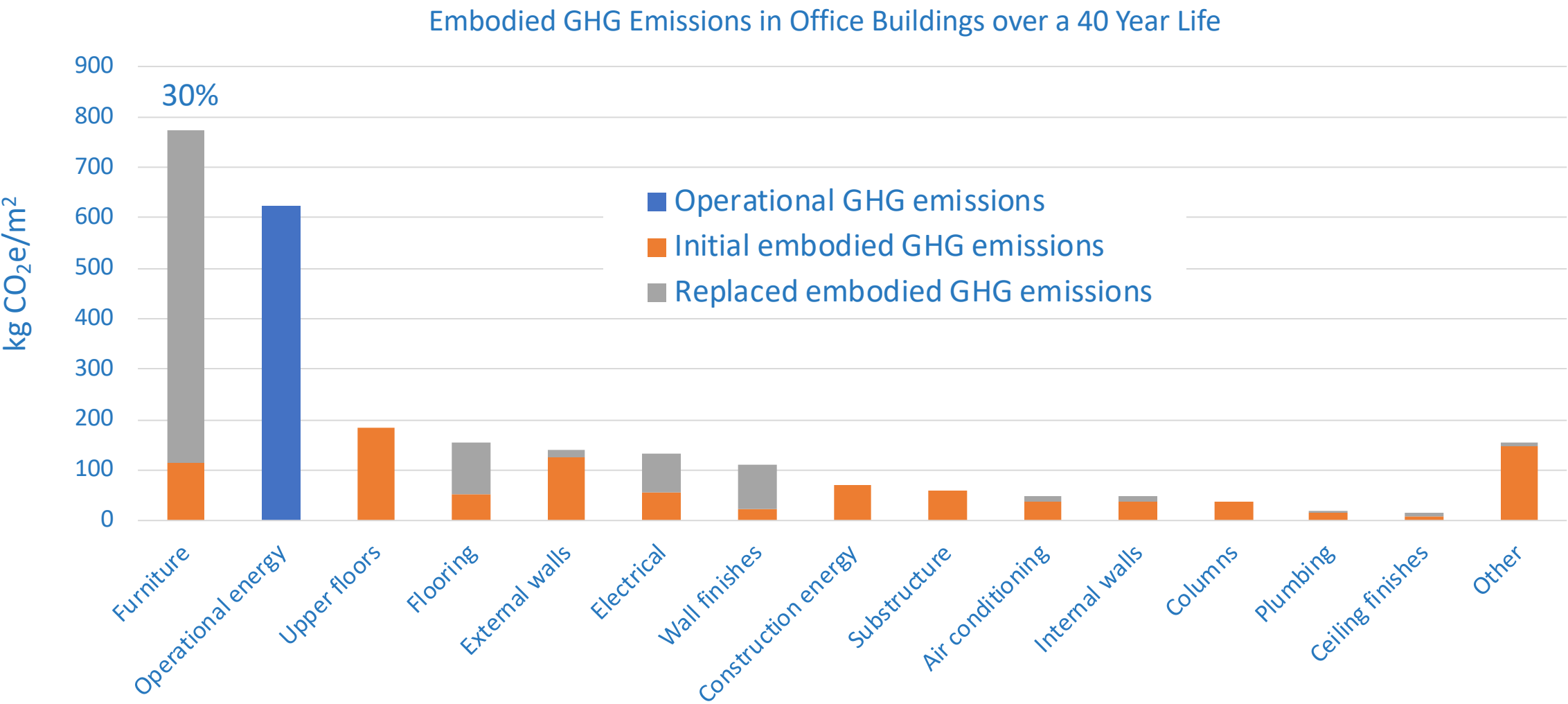
Result is **as-new** in performance and appearance

This can be done on your **existing products** or high quality externally sourced **used** products

Suits:

- Photocopiers
- Some lab equipment
- Computers
- Audio-visual
- Furniture

Furniture is the biggest GHG emitter in an office

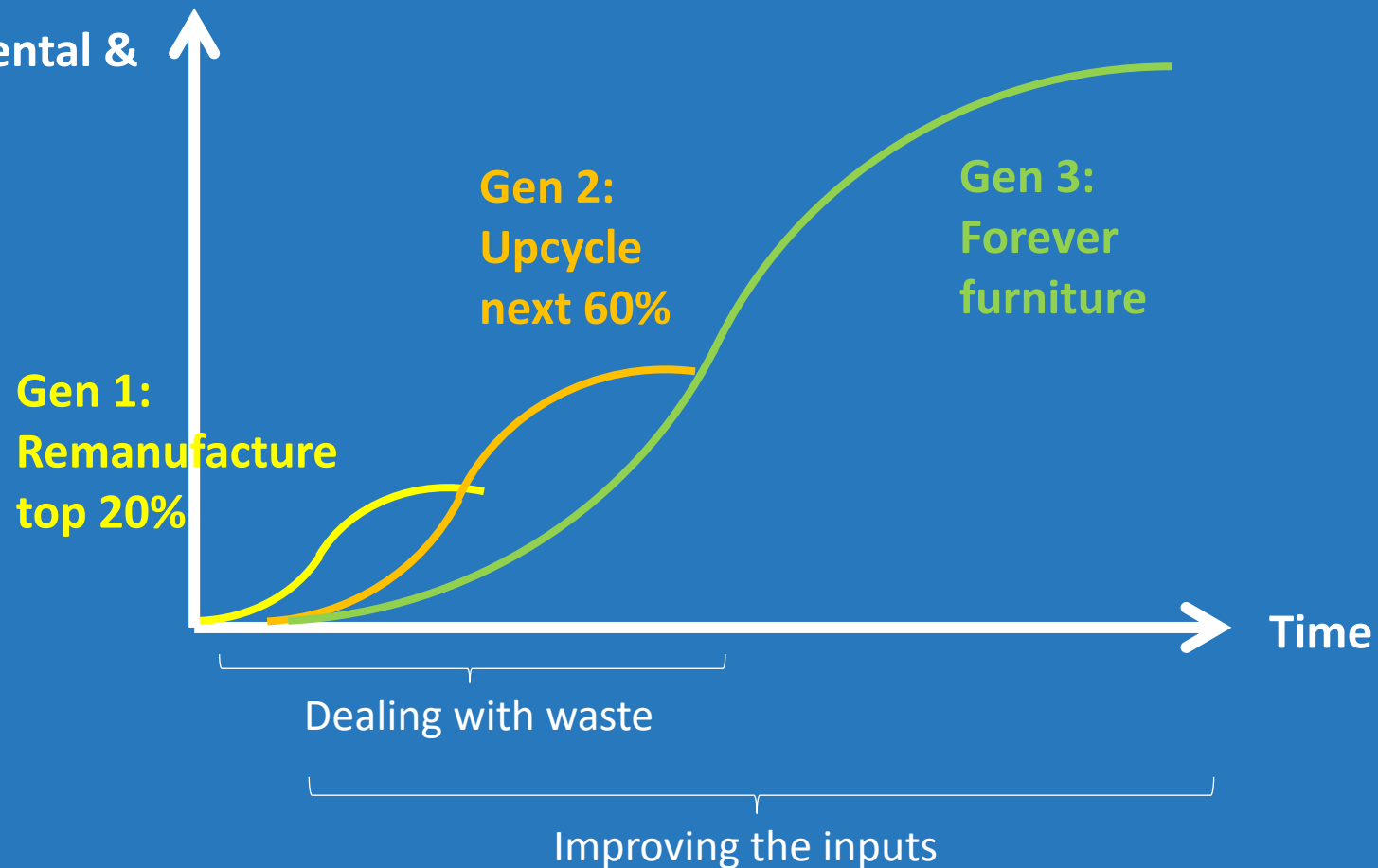


Source: Treloar, GJ. Et al, 1999, *Embodied energy analysis of fixtures, fittings and furniture in office buildings*, Facilities, Volume 17, Number 11, pp. 403-409 (Accessed on 14 June 2019 at https://www.academia.edu/18481731/Embodied_energy_analysis_of_fixtures_fittings_and_furniture_in_office_buildings)

The Future of Circular Office Furniture



Market share of new
office furniture
(also environmental &
social benefits)



Generational Examples



Generation 1

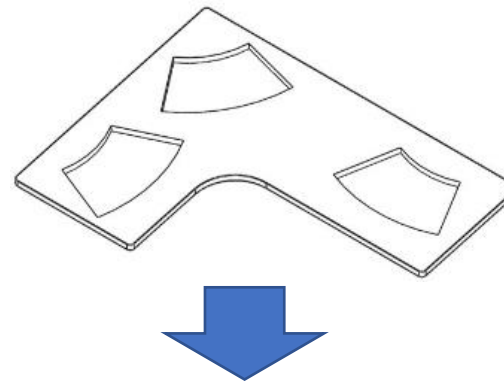
Remanufacturing top 20%



- Top of Orangebox's range & still in production
- FIRA Ergonomic Excellence Award
- 1.3M made
- <1/3 new list price

Generation 2

Upcycling



Generation 3

Forever furniture



- Recycled post-consumer waste plastic
- Yoghurt pots for top
- Kitchen chopping boards and black bin bags for base

Bangor University



Rype Office project



Cardiff Business School (Before)



Cardiff Business School (After)



- | | |
|----------------|----------------------------------|
| 1. Trial: | Single room (staff common room) |
| 2. Ramp-up: | Dean's offices |
| | Old Dean's offices and boardroom |
| 3. Full scale: | Other buildings |

1. We (the end user) set the assessment **evaluation criteria** within the procurement process so include what matters to you (e.g. remanufactured %, waste reduction, reuse of existing furniture) and weight them to suit your values
2. Separate **building works** (difficult to make circular and managed by Facilities department) from **furniture & flooring** (circular and outsourced)
3. Good **design** is key
4. Can break the **wasteful cycle** of buying cheap, uncomfortable and ugly budget furniture that does not last and cannot be remanufactured

- Demonstrate the **business case**
- Work **directly with suppliers** because:
 - the circular economy is new to most designers too
 - the supplier needs to take the furniture back for further remanufacturing at the end of each life
- **Persist:** It will not happen organically. Some people don't get it – sometimes you have to make it happen
- For ease, **partner** with a remanufacturer who does the design, audits your furniture stores, provides open book pricing, offers a price match guarantee, provides (and takes back) Circular Economy furniture and flooring and creates a Sustainability Report
- Do a **trial** to show that there is no compromise on quality

We believe that all workspaces can and should be **attractive, sustainable** and **lower cost**

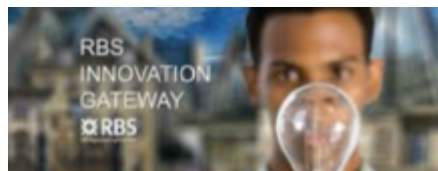


We make this easy for customers with:

- **Office design** to create wonderful workspaces from sustainable furniture & flooring
- High quality **sustainable & remanufactured furniture**



Awards



110+ Projects



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