



Fig 1.1 Circular economy diagram (Sophia Stiles, 2020)

Circular economy is where the products are made and used in a way that allows them to be recovered, regenerated and reused at the end of their service life. This reduces waste and saves money and materials by reducing the amount produced as well as protecting the environment by not contributing to landfill.

Non-Architecture Example – Europe's first Circular Economy factory for cars (Renault Factory)

- Remanufacturing vehicle components such as gear boxes and turbo compressors
- Increasing recycled plastic content
- Creating a second life for electric batteries

[Ellen McArthur Foundation, 2021]

Renault announced in 2020 that they are creating an RE- Factory- a factory especially for the recycling of their car parts. They are the first company to dedicate themselves to reusing car parts and are focussing on four 'Circular Economy Activity Areas:

1. Extend the life of vehicles - 'Re-trofit'
2. Solutions for the production, storage and management of green energies - 'Re-energy'
3. Optimise the management of resources to support the ecosystem - 'Re-cycle'
4. Promote innovation and knowledge sharing - 'Re-start'

[Ellen McCarthy Foundation, 2021]

Architecture and Circular Economy



Fig 1.2 EBBA Architects Construction School join (Amy Frearson, 2021)

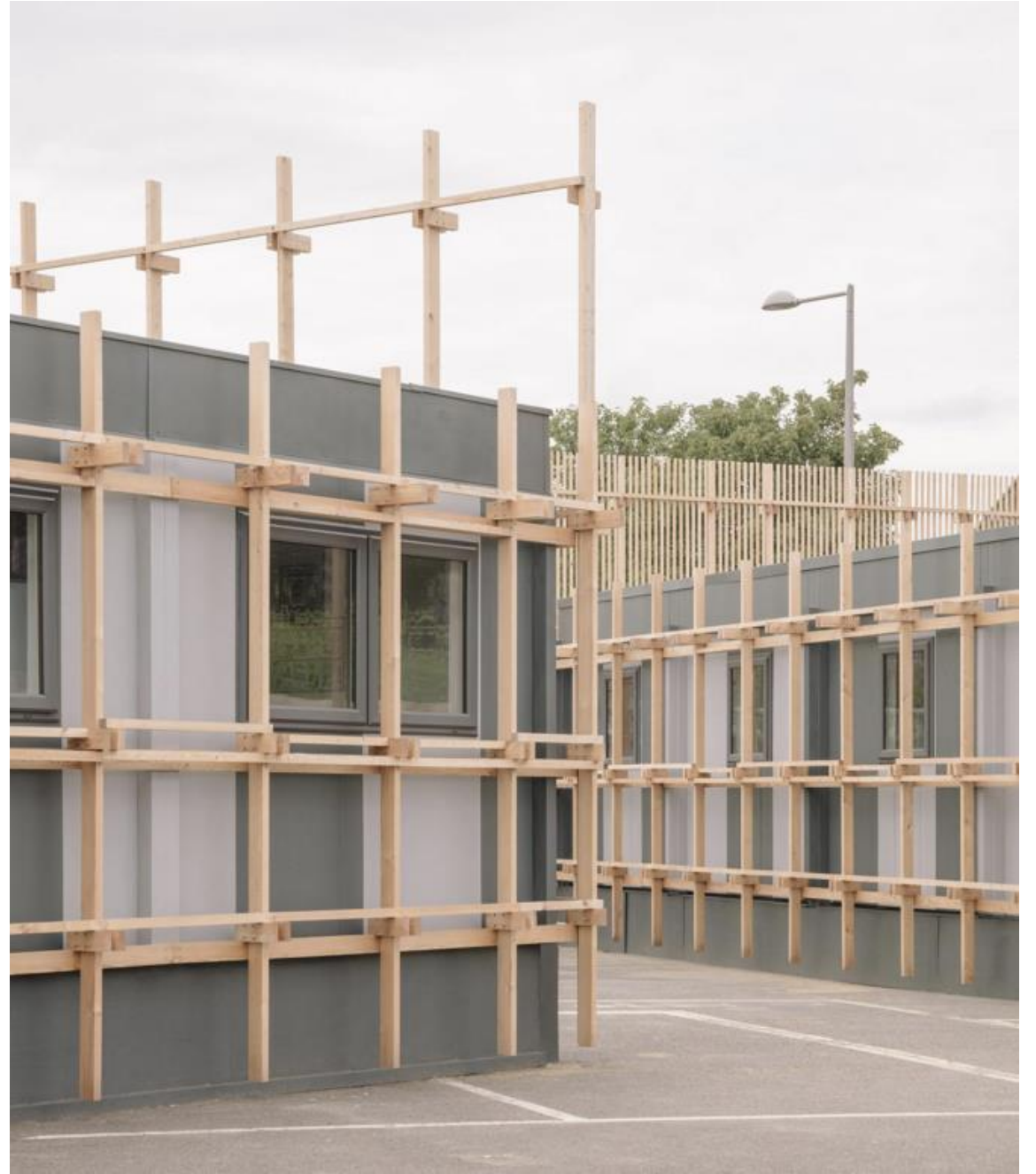


Fig 1.3 EBBA Architects Construction School (Amy Frearson, 2021)

A Construction Skills school has been built in London using repurposed cabins from a local primary school and timber to give it a more sympathetic design. The school is temporary and has an intended lifespan of 5 years, before the buildings will be dismantled and used again. The timber used has simple joins and comes in uniformed sizes so that it can easily be dismantled and used again. This is easier to recycle than for example, Bricks and mortar because there is no complex structure or adhesives etc to remove from the reusable materials. The structure of the timber façade is shaped to fit around the windows and can be fitted to any cabin. (Amy Frearson, 2021)

Circular Economy Facts and Statistics

- In 2019 alone, global CO2 emissions embodied in the manufacturing and transporting of construction materials accounted for up to 11% - 23% of global CO2 emissions
- Construction materials and the building sector account for more than one-third of global resource consumption
- Construction and demolition waste contribute up to 40% of urban solid waste (UN Environment programme, 2019)

This suggests that the building sector has a huge impact on the environment, and we need to reduce the amount of waste and CO2 produced through construction. This can be done by recycling materials and products which is why the concept of Circular Economy is beginning to develop. There are not many examples of this yet, however we will look at a few that are successful examples throughout the research process such as the Cork House.

Bibliography

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Image References

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1.3 Frearson, A., 2021. EBBA Architects Construction School [Digital Image] Dezeen. Available at: <https://www.dezeen.com/2021/10/03/construction-skills-school-ebba-architects/> [Accessed 15th October]