

Modular Design / Industrialisation

Description

Modular design methods reduce the amount of waste produced during construction. Adopting such methods will also result in lower upfront emissions.

Key Pointers

- Assembly off-site will reduce on-site construction time, i.e. less disruption to school time
- Processes would need to be incorporated into the design in early stages
- Appointing a consultant at the design stage of a new building element will help identify methods of modular design, which can, in turn, reduce embodied carbon emissions.

Case Study

Barramurra Public School, NSW



The school utilised modular construction methods by constructing classrooms offsite before being installed at the school site.

Source: [NABERS fact sheet: Schools](#)

Construction Materials

Description

Procurement of construction materials should maximise the reduction, reuse, and recycling of resources. This will minimise waste generation and its direct and indirect impact on carbon emissions.

Key Pointers

- Encouraging the use of local construction materials benefits the local economy and the whole life cycle.
- Producing a site waste management plan for construction materials ensures waste is disposed of/reused effectively.
- Consider the reuse of excess construction materials on-site for alternative uses.

Case Study

Hills Grammar School, NSW



The school explored the use of recycled materials to build new playground equipment. They utilised plastic waste materials and recycled plastic to build the playground benches.

Source: [Australia's Most Sustainable Schools | 5-Star Sustainable Programs 2023 | The Educator K/12 \(theeducatoronline.com\)](#)

In-use / Daily Waste Strategy

Description

Strategies to tackle daily waste are simple and can create significant impacts. Encouraging the separation of materials daily can lead to building a natural habit that aids the circularity of the product.

Key Pointers

- Simple strategies that can be translated to young audiences can have an effective outcome.
- Particularly in a school environment, separating waste can be an activity with reward incentives to encourage students.
- Waste audits to ensure waste strategies have been implemented correctly are crucial to ensuring success.

Case Study

St Columban's College, QLD



The school adopts the simple method of recycling bins on campus to promote the separation of waste based on types of waste.

Source: [As part of our commitment to... - St Columban's College | Facebook](#)

Composting

Description

Composting is the process of transforming organic materials into compost to be used back into the environment.

Key Pointers

- Composting presents an opportunity for education purposes to tie into science lessons.
- Incentives where composting is used for community gardens can help present the circularity of organic waste.
- Separating organic waste is crucial to maintaining the nutrient cycle. Contamination is to be avoided.

Case Study

Allenby Gardens Primary School, SA



The school's food garden has a strong sustainability focus. It has on-site compost bins, worm farms, and Bokashi bins to support learning about the nutrient cycle: from food scraps into compost and back into food.

Source: [Foundation, in the garden | Getting Started with Sustainability in Schools](#)

Repair Workshops + Upcycle Markets

Description

Hosting markets whereby products and equipment can be repaired and upcycled, including swap shops, help extend the product's life and prevent new waste from being generated.

Key Pointers

- On-site markets can share a message with the local community.
- Extending a product's life can encourage creativity and increase the life cycle.
- Repairs can teach students new skills.
- Upcycling reduces the demand for raw materials and resources, reducing embodied carbon emissions.

Case Study

St Columban's College, QLD



The school has a Cash 4 containers program that uses old light covers to make collection cages and has also built café furniture from recovered pallets. This avoids waste and encourages students to think of other uses for their waste products.

Source: [Sustainability Champions Award fact sheet \(moretonbay.qld.gov.au\)](#)

Waste Audits

Description

Waste audits analyse the quantity and type of waste generated to improve the organisation's management practice.

Key Pointers

- Producing waste audits helps identify areas for improvement.
- Records allow for progress to be tracked and targets to be produced.
- Appointing an external consultant can facilitate a waste audit and provide a tailored action plan to improve waste strategies.

Case Study

Queensland has a Waste and recycling audit guide that highlights the scope of a waste audit and the method of conducting one. A government grant is also available to fund the programme, which has been granted to at least 113 projects.



Source: [Organic Waste Smart Schools Program – Waste and Recycling Audit Guide \(www.qld.gov.au\)](#)

Local Resources

Description

Local resources encourage projects to source products that support local markets, economy and communities.

Key Pointers

- Utilising local resources supports local businesses.
- Local resources are likely to have lower upfront carbon emissions.
- Local resources are less likely to disrupt the local ecosystem.

Case Study

Hills Grammar School, NSW



The school has taken advantage of their local environment by creating a natural bush backing onto a state forest. They have utilised the setting for sustainable vegetable gardens and an Indigenous native garden.

Source: [Report-2017-ResourceSmart-Schools-Awards-Booklet.pdf](#)
([sustainability.vic.gov.au](#))

Waste Streaming

Description

Waste streaming separates waste and other materials into different bins. The aim is to redirect many of these streams from landfills and recirculate them to be recovered, reused, or recycled for other uses.

Key Pointers

- Waste streaming at school can also prompt students to conduct the activity at home.
- Waste should be separated according to local council policy.
- Waste streaming should be applied to all types of waste, such as construction, lab, and electronic waste.

Case Study

Urandangi State School, QLD



Through the Organic Waste Smart Schools programme, the school received \$2455 to introduce 'Go Green Recycling Stations' into classrooms. These stations allow students to get involved in collecting, sorting, and recycling classroom waste, including organics, plastics, paper, and other recyclables. This project also funded worm farms and related equipment to manage the organic waste collected by the school.

Source: [QLD schools get smart on organic waste - Waste Management Review](#)