

## DESIGN AND PLANNING - easy guide to waste reduction

This EASY GUIDE provides building designers, owners and developers top tips for reducing waste at the design and planning stage of a building project.

The decisions made by designers have a major influence the type and amount of waste. Deciding what and how to build, whether to demolish or renovate, what materials to use and the design specifications for construction all impact on the waste created during the project. Designing buildings for a single purpose (without flexibility), short life cycles or requiring high maintenance can have a large impact on the waste generated during the life cycle of a building.



### 9 top tips for waste reduction during design and planning

1. Plan your project so that waste reduction measures are considered right from the start and for all stages of the project. Include your client, product suppliers and contractors in this process.
2. Is it possible to renovate or remove a building rather than demolish? This decision could save tonnes of waste to landfill or cleanfill.
3. Provide ample time in the project programme for contractors to de-construct buildings, rather than employing destructive demolition techniques. Visit the existing building and identify components for reuse in the new building.
4. Incorporate standardised components in your design.
5. Ask product suppliers to manufacture building components to your specification, to reduce off cuts on site.
6. Prescribe waste reduction as a condition of contract with contractors, and set targets for waste produced.
7. Select building materials and products that reduce waste such as:
  - salvaged / reclaimed building materials
  - materials that cause minimum wastage rates during installation or use
  - high recycled content
  - require minimal maintenance and replacement
8. Design for deconstruction and easy future refits. Consider:
  - flexible interior spaces that can be adapted for different uses
  - products, construction methods and design details that will allow easy disassembly of building parts
  - design to allow access of heavy machinery to the inner building and upper floors during the deconstruction phase
  - materials that can be reused or recycled after its useful life in the building
9. Use the on line databases, trading sites and trade publications to trade second hand materials and recycled products. Visit [www.ronz.org.nz](http://www.ronz.org.nz) or [www.wasteexchange.org.nz](http://www.wasteexchange.org.nz).

## The waste issue

The construction and demolition (C&D) industry is one of the largest waste producing industries in New Zealand. C&D waste may represent up to **50% of waste to landfills** and the majority of waste to 'cleanfill' or C&D dumps in New Zealand (according to the NZ Waste Strategy from the Ministry for the Environment). That's a lot of waste to bury in the ground.

Not only is this a waste of good resources, it is also filling up valuable landfill and cleanfill space, and contributing to serious environmental impacts such as air and water pollution.



## Benefits of designing to reduce waste

Reducing waste is not just good for the environment. Businesses that reduce waste during design may also experience the following benefits:

- Improved work efficiencies through a focus on detailed design prior to construction.
- A high level of client satisfaction could enhance the company image and encourage repeat business.
- Winning contracts for projects that specify REBRI waste reduction procedures.
- Innovation in product use which can help to attract and retain employees.

**Want more information on how to be efficient with materials and reduce waste during design and project management? See the REBRI GUIDE for Waste Reduction – design and planning, available at [www.rebri.org.nz](http://www.rebri.org.nz).**



*Sinclair Knight Merz designed a new understorey for an existing building for Lyttelton Port Company.*

### What is REBRI?

REBRI stands for **R**esource **E**fficiency in the **B**uilding and **R**elated **I**ndustries, and started in 1995 as a collaborative effort between Auckland councils and the Building Research Association of New Zealand (BRANZ) to undertake research and raise awareness of the issues of waste and the efficient use of resources in C&D projects. A consortium of councils, BRANZ, Recycling Operators of New Zealand and the Ministry for the Environment, with assistance from Winstone Wallboards Limited and industry representatives, extended the initiative in 2003 to undertake more research and develop national waste reduction guidelines.