

Target Sustainability House Builders Project

Golden Homes

About the Project

Company: Golden Homes

Project: Dampier St, Christchurch

House size (floor area): 143 m²

Building type: Brick cladding, steel frame

Waste contractor: Budget Bins and Tri Bro Bins

Sorting site: Reworks and Becon Canterbury



Golden Homes © Copyright

Introduction to the Project

Golden Homes signed a Memorandum of Understanding with the Christchurch City Council to participate in the Target Sustainability House Builders Project. The objective of the project was to reduce solid waste going to landfill and cleanfill from new house construction. The project also aimed to test the REBRI (Resource Efficiency in the Building and Related Industries) guidelines and to develop measure-to-manage tools and key performance indicators for new house construction.

Golden Homes chose one construction project on which to identify opportunities to reduce waste to landfill and cleanfill and apply the REBRI Guidelines and measure-to-manage tools. The house was a 3 bedroom, brick clad, steel frame, single storey house.

Waste Reduction Initiatives

The majority of waste was sorted off-site due to limited space on-site for waste sorting. Golden Homes did the following on-site to try to minimise the amount of waste going into the skip and to maximise the amount of waste that could be recovered off-site:

- Used 'speedblock' for the foundation. This type of concrete foundation block creates no boxing waste.
- Kept timber off-cuts in separate piles for reuse on-site.
- Used steel framing. Off-cuts of steel framing are currently more easily recycled than treated timber framing.
- Gave three bags of Pink Batts insulation to the house owner who used the Pink Batts to insulate the ceiling of another house.
- Returned brick pallets to suppliers for reuse instead of disposing of them in the skip.

- Left excess bricks on-site for the owners to use for a barbeque.
- Left excess paint on site for the owners.



Pink Batts given to the owner for reuse © Copyright



Pallets returned to supplier © Copyright



Excess bricks left on-site for reuse by owner © Copyright



Steel framing © Copyright

Waste Sorting

Space on house building sites is often limited. Therefore, the use of skips and off-site waste sorting was considered to be the best option. Budget Bins collected one 7 cubic metre mixed skip, 1/3 full, for materials sorting at Reworks. Tri Bro Bins collected one 7 cubic metre mixed skip for materials sorting at Becon.

The sorting sites recorded the waste composition in the skips by doing a visual assessment when they were emptied at the sorting site. They sent this information to Golden Homes using a simple data collection sheet. The composition and destination of the waste in the skips is shown below (right).

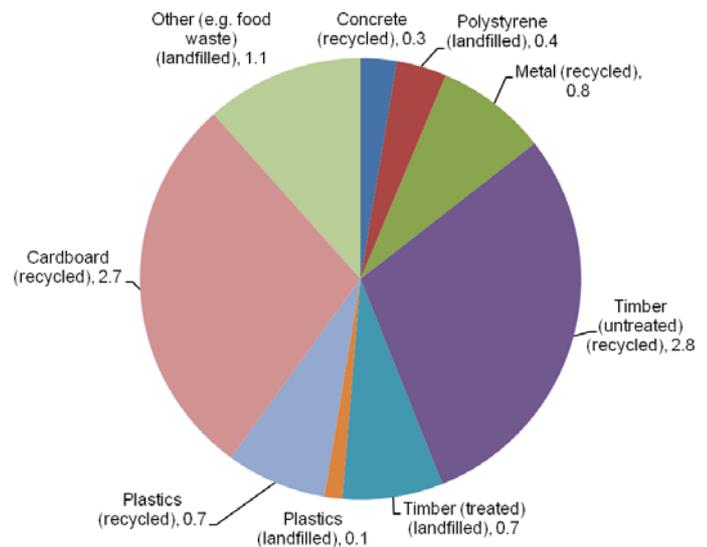
Once at the sorting sites, the material from the mixed skips e.g. cardboard, plasterboard, metals and plastic, are separated. The sorting sites provided information on the materials that were recovered for reuse and recycling.

The Key Performance Indicators for the house build project are shown below (left). 76% of the waste material in the skips was reused or recycled. The main material that was landfilled was fly tipped materials, mainly food/green waste (included in the pie chart as "Other")

Waste Summary and KPIs

Total waste weight	1.69 tonnes
Kilograms per 100 m² floor area	1,182 kg/100m ²
Total volume of waste	9.5 m ³
M³ recycled/reused per 100m² floor area	5.1 m ³ /100m ²
M³ landfilled per 100m² floor area	1.6 m ³ /100m ²
Percentage recycled/reused/stockpiled for recycling	76%
Percentage to landfill	24%

Waste Composition and Destination (m³)



Difficulties

- Unauthorised dumping in the skip (fly tipping) was a problem as the house build site was in a developed residential area. For example, a car tyre was disposed of in the skip. **Tip: Put up a fence around the site and put up signs warning the public against putting their waste in the skip. Move the skip away from the fence to prevent waste being thrown over. Consider asking your waste contractor to provide a lockable lid.**
- A large amount of packaging material, especially cardboard, was disposed of in the skip. **Tip: Talk to your suppliers about reducing packaging materials where possible.**

Future Plans – Golden Homes

- Golden Homes have developed a waste policy to address construction waste from their sites. They have set targets for waste minimisation and are aiming for 85-90% recovery of materials from a new house construction.
- As part of their waste strategy, Golden Homes are developing signs to educate sub-contractors and the public about not putting unauthorised waste in their construction skips.
- Golden Homes are currently reviewing their contracts with their sub-contractors to include waste management goals.
- Golden Homes are talking to their skip provider about providing a lockable lid for the skip.

Want more information? Visit the Target Sustainability website at www.target sustainability.co.nz

The REBRI guides are available at www.rebri.org.nz