Circular Economy in Action in South Australia

Precycle – making building sites cleaner, greener and more efficient

Government of South Australia
Green Industries SA

PRECYCLE

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The old adage "build it and they will come" is particularly apt for an innovative South Australian recycling initiative.

Word of mouth alone has helped Premier Insulation create Precycle [www.precycle.com.au], a successful service that concentrates on removing and recycling discarded building materials from home construction sites and, importantly, has introduced the concept of the circular economy to an industry that has traditionally seen all waste as just waste.

And it's working. A recent review of the initiative funded through a Green Industries SA [GISA] grant showed an increase in landfill diversion of 76% for the Precycle process compared with 10% for a business-as-usual approach, and a reduction in the number of skip bin empties per house from of 3.8 to 1.1 [or 15m^3 of mixed waste to 4.5m^3].

The twist in the story is that this is far from "business as usual" for the people behind the idea.

Joe Golotta is Director of Premier Insulation – which does what its name suggests – and Paul Greig is Operations Manager. Neither has a background in recycling nor was looking to move away from their successful core business.

"It all came about because the Rossdale Homes Construction Team said, 'Joe you're filling up our waste bins with your insulation off-cuts, can't you take them away or do something with them'," Golotta says.

No-one had thought of that before. In the construction industry, the norm is that anything you don't want just gets thrown into a big bin they you pay someone to take that away.

Golotta and Greig, the co-founders and developers of the Precycle System, worked with Team Leader Liam Greig to design, trial and implement a six-stage service. "We are not waste operators, we are insulators," says Greig, "and I feel this has allowed us to think outside the square and ultimately develop a system that is fundamentally different to the business as usual model."

They ran a recycling trial with their insulation off-cuts, then people started asking if they could do something with materials such as plasterboard.

"Our initial response was 'that's not what we do'," says Greig, "but then one day I was on a building site and I heard someone complaining about how much timber was being thrown away and I thought 'there is something to this'."

Working with the support of Rossdale Homes, a long-term client, Premier Insulation ran a more comprehensive trial of what was still an emerging idea, and soon Precycle was born.

"Precycling is common in the retail industry, where it refers to removing the need for bags and packaging," says Greig. "What we are doing is predetermined recycling

of building materials from the site at set stages. We're not recyclers in the traditional sense; we're just collecting the product and giving it to companies who will end up recycling or repurposing it."

It's not rocket science, Golotta notes, but it took two years of testing, trial and error, and commitment to develop a system that works for all involved at a financial, organisational and environmental level.

Once contracted to a building site, Precycle provides a pick-up-on-demand service (within 48 hours of being notified) for unwanted building materials and off-cuts at multiple stages throughout the first phase of a building project, which usually takes from 12 to 18 weeks.

When the footings are finished, Precycle comes in and collects unwanted reinforcing material, for example. Once the carpenters have the framework complete, they come in for timber or steel. "Many of the builders we work with don't have a bin on site now until the lock-up stage," says Greig.

The key to the process is that each type of material is kept apart from the others, and what can be recycled is separated from the genuine waste, which goes into a bin in the usual way.

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That is not left to chance. The Precycle team works with builders and their contractors to get their processes right, but still checks each load before taking it from the site. This has the added benefit of ensuring not only that waste bins only contain material that needs to go to landfill, but also that they are packed as tightly as possible. Builders pay for a bin to be collected whether it's full or not.

Bill Ktisti, General Manager Rossdale Homes has already seen the benefits of the service "this process not only results in environmental benefits, but improves the amenity of the site and management of materials. With less bins required it has helped with the problem of illegal dumping and helps with cost control".

And the Precycle business model works because, in most cases, it charges less than it would cost the builder to have multiple skip bins removed. And that's before you consider the add-on benefits of neater, cleaner and safer work sites, and the ability to market yourself as an environmentally conscious builder.

"We've been approached by a number of builders who have seen what we have done with other builders' sites and in some cases they've been told about us by sub-contractors who've worked on these sites and could see the value of collecting waste properly and efficiently," Golotta says.

There are numerous flow-on benefits from this new approach. There's less need for equipment such as bob cats, for example, and a cleaner site makes it easier for stock estimation and delivery. "Sometimes builders don't notice that there are multiple pallets of bricks completely untouched until it's too late to recover them," says Greig. "When we tell them, they can go back to suppliers and say, 'our agreement is 10% of excess not 25%: come and collect them, we're not paying'."

The positives are being felt outside the industry as well, and not just because of the reduced risk of

illegal dumping. The GISA-funded review showed the environmental benefits of setting up a system – and an ethos – that makes recycling the preferred option.

The report suggests that for each Precycle site an estimated 1.4 tonnes of CO_2 is avoided and 19.7 GJ of energy and 4.1 kilolitres of water are saved.

Based on these figures, it is estimated that for every 10 houses involved with the Precycle process:

- the greenhouse gas emissions avoided are equivalent to taking 3.1 cars off the road for a year
- electricity consumptions savings are equivalent to 3.8 households for a year
- water consumption savings are equivalent to 0.21 households for a year.

Of course, the success of the idea depends as much on what happens to the material once it leaves a building site as how it is separated. Precycle had to convince recycling outlets of their good intentions and that they genuinely would be providing clean, sorted material. That requires a thorough checking and re-checking process during collection and again when unloading the recovered resources.

"One company initially allowed us only 150 tonnes per year and had a strict three strikes and you're out policy," says Greig. "Two years in they will take whatever we bring because they know that what we are bringing them is spotlessly clean."

And yet another idea is in the pipeline. Greig, Golotta and Golotta's son Ben, who is an enthusiastic part of the company's new direction and thinking, are looking to establish a Resource Bank for materials that are suitable for reuse but don't meet the requirements to be returned to the manufacturer.

A credit system, for example, would allow builders to deposit and withdraw materials as needed. Alongside that is the ability to provide unwanted but valuable materials to men's sheds, schools or community projects.

It will all work provided it is more economic for builders to sort and recycle rather than simply throw things in a bin – and Precycle has shown that is the case.

Golotta and Greig are still determining where Precycle will sit within Premier Insulation and what the options are for growing the concept in South Australia. What they do know is that they will have to expand their Precycle business to accommodate the interest and demand.

"I was absolutely staggered when I saw how much is wasted building just one house," says Golotta.

The Precycle service model demonstrates an approach that enables clean streams of materials from building sites to be diverted, even with limited space. With 8000 to 12,000 homes built in South Australia each year, this has the potential to deliver substantial environmental, safety and economic improvements for the building industry.

Precycle is a real alternative for building companies to adopt a modern, responsible and cost-effective approach to waste management on their sites.