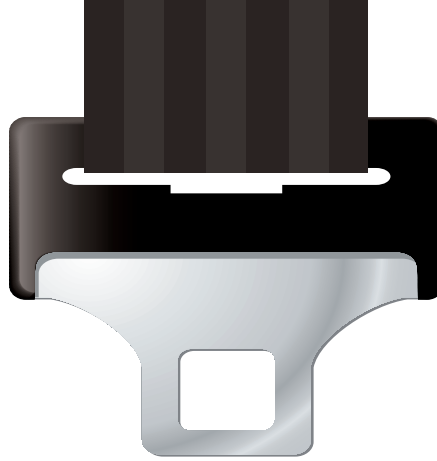


A photograph of a woman with blonde hair and a young child sitting together outdoors. The woman is smiling and looking towards the camera. The child is wearing a denim jacket and is looking up at the woman. In the foreground, there is a blue and white plaid car seat. The background is a corrugated metal wall.

# SEATSMART

## IMPROVING END OF LIFE OUTCOMES FOR CHILDREN'S CAR SEATS

By Michelle Duncan, Project Manager, 3R Group



## WASTE IS AN OPPORTUNITY

Sometimes waste issues seem like the proverbial elephant, too big to eat in one mouthful. So we wait, hoping for legislation, landfill bans or consumer action to force wide-spread change. In a few isolated cases this might happen; mostly it doesn't.

Alternatively the waste elephant can be viewed as a whole heap of bite-sized pieces, with each waste type representing an opportunity to improve outcomes. This is the approach that 3R took when investigating a product stewardship solution for children's car seats, now called SeatSmart.

The idea arose from my personal experience; I was tidying my garage and wondered what to do with my expired car seat. I called Plunket who advised me to cut the straps to render it unusable (it had expired) and take it to the dump.

I took that as a challenge, reasoning there had to be a better solution for an item that was mostly plastic and therefore presumably recyclable. Follow up research helped define the opportunity:

- Have kids in a car? Then you must use an approved car seat. It's a required item for 700,000 families in New Zealand who have a child seven years old and under.
- All seats have an expiry date between six and 10 years from manufacture (due to wear and tear and component degradation)
- A child can go through three configurations between new-born and seven years old (baby capsule, convertible/toddler seat, booster)
- A growing market and waste issue. In 2004, 42,000 seats were imported which have all now expired. For 2014, the estimate is over 100,000 seats; nearly 500 tonnes of waste material
- Seats aren't easily compactable and are high volume by weight, not good for landfill

My findings were presented to 3R's leadership team who agreed there was product stewardship potential, so a project was started with four agreed deliverables: Collaboration, Collection and Recycling, Options for Stewardship, and a Business Plan for an ongoing scheme.

## COLLABORATION IS KEY

With Plunket and the NZ Transport Agency in support and a funding grant from Auckland Council's Waste Minimisation and Innovation Fund, work commenced with formation of a cross sector project team. This was essential, given that the plan was for a voluntary scheme. The team now includes Auckland Council, Baby Factory, Baby on the Move, Hastings District Council, NZTA, Plunket, Tas Baby Holdings and The Warehouse.

## EVIDENCE BASED DECISIONS

One of the project team's first actions was to add a new project deliverable: Investigate the use of brominated flame retardants (BFRs), after the Ministry for the Environment flagged this as a potential complication.







BFRs have been added to many consumer products (including car seats) for years. Some older BFRs are now classified as Persistent Organic Pollutants (POPs). Recycling components containing these BFRs is banned due to health and environmental risks, so the project engaged Dr Ben Keet to perform testing using an x-ray fluorescence scanner.

3R collected a sample of 40 different child seats which were scanned for the presence of bromine which would indicate BFRs. Components were measured separately (e.g. fabric, foam and each plastic type); overall 220 scans were taken. Pleasingly, no plastic samples tested positive for BFRs, however four foam samples and three fabric samples tested positive at various levels. The testing method did not differentiate between specific types of BFR's, so all foam and fabric would need to go to landfill, while plastic and metal could be recycled without risk.

## RECYCLING TRIAL

There's no substitute for hands-on experience, so we conducted three separate recycling trials in Auckland. Abilities Group and two Community Corrections programmes provided the dismantling resource, while Astron Plastics took the plastic for recycling.

Results were:

- 438 seats were processed, diverting 1813kg from landfill
- Nine different material streams were collected
- The average seat took around six minutes to dismantle using hand tools
- Dismantled materials were 92 percent recyclable by weight





The recovered polypropylene plastic was recycled without any issues and the dismantling partners considered the process suitable for ongoing work, therefore the recycling trial was considered successful.


## ROLL-OUT

Scheme specifics are still being finalised by the project team however all parties agree on the fundamentals and likely form that SeatSmart will take.

- A voluntary, retailer led stewardship scheme for all brands of seats
- Aims to generate awareness of expiry dates and safe use, and provide free recycling of end of life seats to consumers
- Likely to be funded by participating retailers collecting an advanced disposal fee on sales of new seats

- Engagement with community and social enterprise to collect and dismantle seats
- Recycle plastic and steel; develop new end-uses for other materials
- Launch in Auckland region in year one, roll-out nationwide in year two

SeatSmart is scheduled to launch during mid-2015, a great result considering that the first project workshop took place in February 2014. This progress is very much due to the openness participants have brought to the process, combined with a genuine desire for better environmental outcomes for this product.

Those interested in staying informed can contact me ([michelle@3r.co.nz](mailto:michelle@3r.co.nz)) or go to SeatSmart's Facebook page at [www.facebook.com/SeatSmartNZ](http://www.facebook.com/SeatSmartNZ). 



Michelle has been with 3R Group Ltd for seven years and during that time has gained broad experience in developing and managing stewardship programmes.

Michelle played a key role in the 3R-managed Tyrewise project, which developed a preferred stewardship model for end of life tyres in New Zealand.

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