From Single-Use to Systems Thinking:

Cardrona Alpine Resort's Journey to Low-Waste Operations

"On a mountain, everything that goes up has to come down. Once you see the amount of waste that creates, and realise you have to deal with every bit of it, it becomes obvious that reducing it is simply the most efficient way to operate."

Why Change Was Needed

Cardrona Alpine Resort sits high in the Southern Alps of New Zealand. Unlike most hospitality businesses, everything that arrives on the mountain must eventually leave it again. Every bottle, wrapper, carton and takeaway container needs to be transported up the mountain and then handled, sorted, and transported back down again.

When Cardrona began its sustainability journey, the scale of this challenge was obvious. In 2006, nearly everything sold on the mountain came in single-use packaging. A dedicated packaging room handled the constant flow of disposable cups, bottles, wrappers and containers.

The environmental impact was clear - but so was the operational cost. Waste required staff time to handle and sort, diesel to transport it down the mountain, and ongoing landfill charges. The team began asking a simple question:

What if sustainability was simply the most efficient way to run the mountain?

Over the past decade, Cardrona has treated sustainability as a business efficiency challenge - finding ways to reduce waste at the source while improving the guest experience. The results have been significant: fewer materials transported up the mountain, less waste handled by staff, lower diesel use, and a stronger brand identity that attracts both guests and employees.

Importantly, the approach has always been pragmatic: do the right thing environmentally, but design solutions that also make good business sense.

Starting with the Low-Hanging Fruit

The journey began with small, practical changes.

Early initiatives included removing plastic straws, switching to locally sourced produce and sending kitchen scraps to local farms. One of the first major shifts came in 2013 when plastic wrapping was removed from pies - eliminating more than 24,000 plastic wrappers each season.

Other early changes included:

- Removing takeaway packaging from the Noodle Bar (around 25,000 containers per season)
- Switching beer service from bottles to taps (removing approximately 70,000 bottles/cans per season)
- Eliminating plastic portion-control ketchup units (82,000 units annually)

These early decisions proved something important: reducing waste could actually make operations easier. Fewer disposable items meant less pressure on storage space, less stock management and less waste to handle.

Perhaps the most influential early change was the decision to remove takeaway coffee cups entirely. While initially seen as risky, it quickly demonstrated the value of reusable systems.

Guests enjoyed their coffee in real cups, which improved the overall café experience. When people sat down with a proper cup, they were more likely to stay longer and purchase additional items. Sales per guest increased, while waste handling dropped dramatically.

This success created momentum for larger changes.

Systems Change: Re-Designing How the Mountain Operates

By 2018, Cardrona committed to a much larger transformation: moving entirely to reusable crockery and cutlery across its hospitality operations.

This decision required investment. Dishwashing areas were upgraded to handle the increased demand, and new systems were designed to manage reusable service ware efficiently.

The impact was immediate. In a single season the resort eliminated an estimated:

- 80,000 takeaway coffee cups
- 30,000 chip cups
- 45,000 paper plates
- 90,000 plastic cutlery items
- 40,000 water cups

One of the clearest indicators of progress was the disappearance of the resort's dedicated packaging room. What was once a busy space used to store, sort and manage thousands of single-use items each season gradually became unnecessary as disposable products were removed from operations. The space could then be repurposed for more valuable operational uses.

The cost of upgrading dishwashing infrastructure and purchasing real crockery was offset within two seasons through reduced packaging purchases and operational efficiencies.

Further systems changes followed:

- Replacement of pallet wrap with reusable cargo nets
- Transition from bottled drinks to post-mix and keg systems
- Removal of plastic bottled water in favour of free mountain spring water
- Development of a procurement policy requiring sustainable packaging from suppliers

In 2020 alone, the removal of plastic bottled drinks eliminated approximately 44,000 plastic bottles per season.

Eliminating Landfill: A Cultural Shift

In 2021, Cardrona achieved a milestone that once seemed unrealistic: eliminating landfill bins from guest-facing areas of the resort.

Rather than hiding waste behind the scenes, the resort moved to supervised sorting and recycling stations. Staff assist guests to separate materials correctly, significantly improving recycling quality and preventing contamination.

Food scraps and compostable packaging are collected and composted, with the compost used in native tree and tussock planting around the mountain.

Guests are encouraged to follow a “pack-in, pack-out” approach for any waste they bring with them. Clear signage and staff communication help reinforce this message.

While there were initial concerns about guest reaction, the reality has been overwhelmingly positive. Most visitors appreciate the transparency and the opportunity to participate in reducing waste.

Building Capability and Culture

One of the most powerful outcomes of Cardrona’s sustainability journey has been the cultural shift within the team.

Staff are now actively involved in identifying opportunities for improvement. Many initiatives have started with simple questions from frontline employees: 'Why do we sell water in plastic bottles when we have pure mountain spring water on tap?' and 'Where are people taking takeaway coffees on a ski mountain?'

This culture has also changed recruitment. Increasingly, people apply to work at Cardrona specifically because of the resort’s sustainability values.

The philosophy is simple: sustainability is never “finished.” Each season builds on the lessons of the previous one.

Working with Suppliers to Drive Change

As the easier wins were achieved, the focus shifted further up the supply chain. Rather than simply managing waste after it arrived on the mountain, Cardrona began working with suppliers to eliminate waste before it was created.

In some cases, suppliers were given more than two years' notice of upcoming procurement changes, providing them with the opportunity to innovate and adapt. In other cases, Cardrona made the decision to stop stocking products that no longer aligned with its sustainability goals.

Examples include:

- Partnering with Cookie Time to develop compostable packaging
- Removing products from major brands that refused to transition away from plastic bottles/packaging
- Supporting local suppliers willing to eliminate unnecessary packaging

A recent example is Cardrona's partnership with Fresh Link to establish bulk refill systems for products such as olive oil. Instead of repeatedly purchasing individual containers, kitchens now refill from central bulk systems, eliminating hundreds of unnecessary containers each season.

The resort has also supported circular initiatives such as SaveBOARD, where used beverage cartons are turned into low-carbon building materials.

Measuring Impact

Across more than a decade of continuous improvement, Cardrona has removed hundreds of thousands of single-use items from its operations each season.

Waste volumes sent to landfill reduced by 50% in the first year (2020 vs 2021) and has reduced by 80% per guest (2020 vs 2025), while operational efficiencies have reduced transport requirements and waste handling costs.

Single-use packaging previously cost the resort around $45,000 per year (*costs at Cardrona only, and from 2017 volumes / pricing), with many of these costs now eliminated through reusable systems.

Just as importantly, the guest experience has improved. Serving food and beverages on real crockery and glassware has increased perceived value and average spend per guest.

Learnings for Other Businesses

Cardrona's experience shows that sustainability initiatives do not need to begin with large investments or complex technology. The most effective approach is often the simplest:

Start with the low-hanging fruit
Look for obvious waste that adds cost but little value. For example, we realised our single-use ice cream pottles were technically recyclable but were often contaminating recycling streams because they weren't being rinsed properly. By switching to edible ice cream cones, we eliminated the packaging altogether while improving the guest experience and increasing the perceived value of the product.

Measure progress
What gets measured gets managed. We began tracking waste streams, landfill volumes and spending on single-use consumables to better understand where our biggest opportunities existed. The simple act of measuring creates awareness, helps guide investment decisions, provides valuable feedback to teams, and highlights where systems need improving.

Invest in systems that eliminate waste at the source
Long-term success comes from designing waste out of the system. Examples include investing in kegged beer, wine and cocktail systems, post-mix soft drinks, bulk milk delivery, reusable crockery and cutlery, and composting systems for food scraps. While these investments often require upfront capital, they reduce ongoing operating costs while improving efficiency and guest experience.

Work with suppliers to drive change
Businesses have more influence than they often realise. We worked closely with suppliers to reduce unnecessary packaging, source products locally where possible, consolidate deliveries, replace pallet wrap with reusable cargo nets, and develop more sustainable packaging solutions. In some cases, we gave suppliers several years' notice of upcoming procurement changes, creating opportunities for innovation throughout the supply chain.

Empower staff to challenge existing practices

Many of our most successful initiatives started with frontline staff asking simple questions: "Why do we sell water in plastic bottles when we have pure mountain spring water on tap?" or "Where are people taking takeaway coffees on a ski mountain?" Creating a culture where staff feel empowered to question existing practices leads to continual improvement. It also helps attract people who share similar values, creating a positive feedback loop where sustainability becomes part of the organisation's identity rather than a standalone programme.

Most importantly, sustainability should not be treated as a marketing exercise. At Cardrona, it has always been about doing the right thing and then finding a way to do it that makes good business sense. Time and again, Cardrona has found that reducing waste, improving efficiency and enhancing the guest experience are not competing priorities—they are often different outcomes of the same decision.

“Great oaks from little acorns grow. Sustainability is about planting the seed, sharing the story, and continually looking for the next improvement — no matter how small.”