

Opportunities in the Circular Economy

Submission to the Productivity Commission Inquiry

Date: November 2024
Prepared by: Cleanaway
Version: 1

Contents

1. INTRODUCTION	3
1.1 Who is Cleanaway?	3
1.2 Cleanaway’s approach to Circularity and the Circular Economy.....	3
2. RESPONSES	4
2.1 Request 1: Circular economy success stories and measures of success	4
2.2 Request 2: Priority opportunities to progress the circular economy	7
2.3 Request 3: Hurdles and barriers to a circular economy	9
2.4 Request 4: Governments’ role in the circular economy.....	10
3. APPENDIX 1 – CASE STUDIES	11

1. Introduction

This document outlines Cleanaway's submission to the Productivity Commission's Inquiry into 'Opportunities in the Circular Economy'.

Cleanaway's intent in providing this response is to:

- provide a waste industry perspective on circular economy opportunities and challenges
- share relevant case studies, and
- highlight specific policy or regulatory changes that would support the transition to a circular economy

1.1 Who is Cleanaway?

Cleanaway Waste Management Limited ('Cleanaway') is Australia's leading total waste management, industrial and environmental services company. Our team of more than 7,900 highly trained staff are supported by a fleet of over 6,100 specialist vehicles working from approximately 335 locations across Australia. With the largest waste, recycling and liquids collections fleets on the road and supported by a network of recycling facilities, transfer stations, engineered landfills, liquids treatment plants and refineries, we are working hard to deliver on our mission of making a sustainable future possible, together.

1.2 Cleanaway's approach to Circularity and the Circular Economy

For some time now, Cleanaway's position on circularity has been that "We aim to keep resources circulating in the economy so that they can be used for the same or similar products." We have also developed a modified version of the waste hierarchy that is more specific about recycling priorities.

This historical approach is based on Cleanaway's strengths in the recycling sector. However, we also recognize that Circular Economy is broader than recycling and that there are opportunities and responsibilities to be explored within the other two pillars of circular economy:

- Design out waste and pollution
- Regenerate Nature

Our approach to Circularity is evolving. We welcome the opportunity to make this submission in support of a greater focus on the broader Circular Economy.



2. Responses

“It is important to distinguish circularity from landfill diversion; they are not the same. For example, incorporating glass fines or plastic in construction materials diverts this resource from landfill but a circular solution involves these valuable resources being made into the same or similar products, for reuse and recirculation, again and again.”

2.1 Request 1: Circular economy success stories and measures of success

Australian case studies of circular economy activities already occurring

Cleanaway has assembled the following case studies to share which demonstrate circular economy success stories:

1. Reusable sharps containers
2. Re-refined Base Oil (RRBO)
3. Circular Plastics Australia
4. Composting of Food Organics and Garden Organics (FOGO)
5. HVO100 Renewable Diesel

Case Study 1: Reusable Sharps Containers

Refer to Appendix 1.

Case Study 2: Re-Refined Base Oil (RRBO)

Refer to Appendix 1.

Case Study 3: Circular Plastics Australia

Cleanaway recognises the extraordinary potential for recycling plastic. This was catalysed by the federal government waste export bans and the state-based container deposit schemes. As a result we formed Circular Plastics Australia (CPA), a joint venture to ensure we have the right processing capability and end markets for the plastic we collect. Cleanaway has invested \$146 million in developing new plastic recycling capacity, processing 76,000 tonnes per annum.

Circular Plastics Australia - PET

This joint venture between Cleanaway, Pact, Asahi and Coke focuses on PET plastic, seeking to create a closed loop circular economy for plastic bottles. The first facility opened in Albury in December 2021 and is already producing food-grade rPET (recycled PET) to be used in manufacturing new bottles. The second facility opened in Altona in Dec 2023. Combined, the two represent over \$100 million that Cleanaway has invested in plastics recycling. Circular Plastics Australia (PET) has been named as one of The Australian Financial Review's Sustainability Leaders for 2023 in manufacturing and consumer goods for its two PET plastic bottle recycling facilities.

Circular Plastics Australia - PE

This joint venture between Cleanaway and Pact takes HDPE and PP plastic material to be recycling into new consumer packaging. Representing a further \$38 million in resource recovery investment, this facility is at the same location as our Laverton Material Recovery Facility and Plastic Recovery Facility so that containers that are received from our council customers can be processed and recycled into new plastic on the same site. Opened in early 2024, it can recycle up to 20,000 tonnes of used high density polyethylene (HDPE) and polypropylene (PP) packaging each year at full operational capacity and was awarded the Circular Economy Award at the 2024 Chemistry Australia Industry Awards.

Developing the leading, vertically integrated plastic recycling footprint

Case Study 4: Composting of FOGO

Refer to Appendix 1.

Case Study 5: HVO100 Renewable Diesel

Renewable diesel (HVO100) is TODAY's solution for reducing carbon impact:

- **Circular** solution made from **used cooking oil** collected from hospitality businesses
- Suitable for **all diesel engines**, no need to retrofit
- **Up to 91%*** reduction of GHG emissions compared to fossil diesel
- **Zero odour** from tailpipe emissions, zero carcinogens
- Same **performance** uptime and payload as diesel
- Structurally **reduce** scope 3 emissions (reduces reliance on ACCUs)

Demonstrating the low carbon pathway:

In February 2024, Cleanaway launched its HVO100 renewable diesel demonstration to show our customers, partners and governments how HVO100 offers a scalable option for emissions reduction. The fuel is made from 100% used cooking oil which creates a circular pathway for recycling that material. Our demonstration in two solid waste collection vehicles, one for City of Casey municipal council and one front lift organics truck servicing Coles among other customers, will test the performance and environmental credibility of HVO100 and contribute to increasing the use of HVO100 across Australia. <https://www.cleanaway.com.au/renewable-fuel/>



Real emissions reduction:

Transport and fuel combustion is a major scope 3 contributor for Cleanaway customers. Carbon reduction through operations emissions reduction is preferred to offsetting carbon emissions and can reduce the cost of purchasing ACCUs or other carbon offsets.

NGERS is Australia's National Greenhouse and Energy Reporting Scheme. HVO100 is approved as a NGERs reportable emissions reduction solution.

2.2 Request 2: Priority opportunities to progress the circular economy

Soft plastic

LDPE, or soft plastic, is a priority opportunity to progress within the circular economy.

Cleanaway and Viva Energy have entered into an agreement to undertake a pre-feasibility assessment of a large scale, circular end-to-end solution for soft plastics and other hard-to-recycle plastics currently sent to landfill. This project follows our successful trials of soft plastics “bag-in-bin” kerbside collection with six Australian councils which identified that 85% of collected household plastics are suitable to be chemically recycled into food grade PE or PP. We’ve also completed the feasibility study for the pre-processing plant to transform mixed soft plastics.

The purpose of the project is to return these products, currently destined for landfill, back into feedstock for the production of food-grade plastic packaging. Through the proposed project, we want to provide a sustainable soft-plastics solution for food manufacturers and packaging companies seeking to cater to the growing environmentally conscious market, as well as households and businesses who want a landfill-diversion option for this waste stream.

This proposed investment would make a significant contribution to achieving the federal government’s 70% plastics packaging recycling as well as recycled content targets. Importantly, this is the only project that could deliver a sovereign end-to-end solution transforming soft plastics waste into new food grade recycled soft plastic packaging at scale.

The proposed facility is particularly exciting because the process produces a resin with identical properties to the virgin product which is a game changer for producing food grade recycled packaging. The outcome will not only stop soft plastic from going to landfill but create a circular pathway for packaging to become new products.

One of the critical steps is the implementation of the packaging reform and product stewardship obligations to ensure feedstock supply. Having a framework for packaging design, manufacturing and recycling will make a circular outcome for soft plastic possible. We have also engaged with key state and federal government departments about the trials and their relevance to the National Packaging Targets, waste reduction targets, industry and jobs, and emission reduction targets.

The facility would incorporate a dedicated sorting and mechanical pre-treatment plant and an advanced chemical recycling plant to convert waste plastic into plastic pyrolysis oil (PPO), a feedstock for co-processing at Viva Energy’s Geelong Refinery (Figure 1).



The recycled resin manufactured through this process would have identical properties to virgin resin, opening the potential for food manufacturers to use recycled packaging. Viva Energy operates the last virgin plastic resin manufacturing plant in Australia located at Geelong Refinery, following the announcement of Qenos' closure of both its manufacturing sites at Altona and Botany.

Figure 1. Cleanaway and Viva Energy proposed circular solution for hard-to-recycle plastics

Progressing towards soft plastics circularity

Cleanaway and Viva Energy plan to progress into pre-FEED (Front End Engineering and Design) in 2025, subject to internal approvals. This would keep us on target to make a final investment decision in 2026. For both companies to feel comfortable to make this investment the following policy pieces will need to be in place:

- a well-designed, mandatory product-stewardship scheme for soft plastics to ensure the economic viability of their collection, recovery and circular reuse;
- packaging reform with minimum Australian recycled content obligations; and
- mass balance, free attribution using an international recognised system to track the circular content through the supply chain and, once transformed through the Geelong Refinery, attribute the circular content to the polypropylene to produce recycled plastic resin.

We strongly believe these reforms will minimise packaging waste, boost recycled content and allow us to build on the existing manufacturing technology and skills we have in the country. We would be willing to work with Government on these reforms to maximise the opportunity for manufacturing in Australia.

A project of this significance will require support from governments, industry, stakeholders and customers to come to life. The absence of regulation presents a key risk to the project not becoming a reality.

2.3 Request 3: Hurdles and barriers to a circular economy

There are a range of hurdles and barriers to the full-scale implementation of a circular economy:

- The first principle of circular economy is to 'Design out waste and pollution' however entrenched consumerist attitudes that are driving exponential increases in natural resource consumption are not being challenged in the mainstream discourse.
- The links between carbon emissions, nature and biodiversity collapse and circular economy are poorly understood so solutions to address one issue often exacerbate others (eg. the shift to electric vehicles is driving enormous growth in mineral extraction which negatively affects biodiversity)
- Shortcomings in the carbon emissions reporting and reduction framework leads to tensions between individual company carbon emissions footprint (increase) and the overall societal benefit of producing materials that can displace virgin materials (carbon emissions decrease). For example, plastics recycling requires electricity and transport which generates emissions. However, whilst these emissions are lower than producing virgin plastics, there is currently no methodology that recognises these benefits. Instead, recyclers increase scope 1 emissions and become liable for associated costs.
- Costs of virgin materials do not reflect the environmental cost of extracting them, while recycled materials inherently bear the cost of recovering them, resulting in uneven economics and higher barriers to uptake of recycled materials. Mandatory Product stewardship and Extended Producer Responsibility schemes have been proven successful domestically and internationally to balance these economic barriers
- Recycling includes collection, processing and remanufacturing that is often labour and energy intensive. Both labour and energy costs are comparatively high in Australia compared to countries in Asia. We are seeing the supply of imported recycled materials often at lower cost compared to domestically produced recycled materials. This represents a barrier to creating a competitive circular economy within Australia and requires regulation to ensure Australia's recycling and remanufacturing industry can be competitive.
- Contamination is a priority issue that needs to be managed no matter what material stream is being recovered. When poorly managed, contamination can result in a significant proportion of material being sent to landfill. Product and collection service design has to be such that contamination is minimised. Both behavioural and technical solutions need to be improved.

2.4 Request 4: Governments' role in the circular economy

Cleanaway's position on the government's role in the circular economy is broadly as follows:

- Consistent and coherent national and state policies that drive towards circular economy outcomes are imperative. Specifically for the waste industry priority areas include:
 - o Harmonised landfill levies
 - o Harmonised kerbside and Container Deposit Scheme standards
 - o Consistent regulation on environmental compliance to deal with legacy materials such as heavy metals and PFAS
- Strong government frameworks and direction are needed to implement and enforce schemes like Extended Producer Responsibility and Product Stewardship. Voluntary systems are often ineffective. Mandatory schemes need to be properly structured, financed and supported. The example of the packaging reform under 2.2 exemplifies how industry requires mandatory frameworks for circular outcomes to create the conditions for large scale investments to drive a circular economy.

3. Appendix 1 – Case Studies

1. Reusable Sharps Containers
2. Re-Refined Base Oil (RRBO)
3. Composting of FOGO

End of Document



Making a safe, sustainable future possible



Sharpsmart

The world's safest sharps management system

Sharpsmart

Cleanaway Daniels Sharpsmart system is the world's safest and most environmentally responsible sharps management system.

Peer reviewed in four independent studies and relied on by healthcare facilities around the world, the Sharpsmart system is driven by a single objective - To Save Lives.

Results from the largest international study of sharps containment systems were published in 2003 in the British Journal of Hospital Infection. These findings below showed a dramatic reduction in sharps injuries:

CONTAINER RELATED SHARPS INJURIES: ↓ 87%

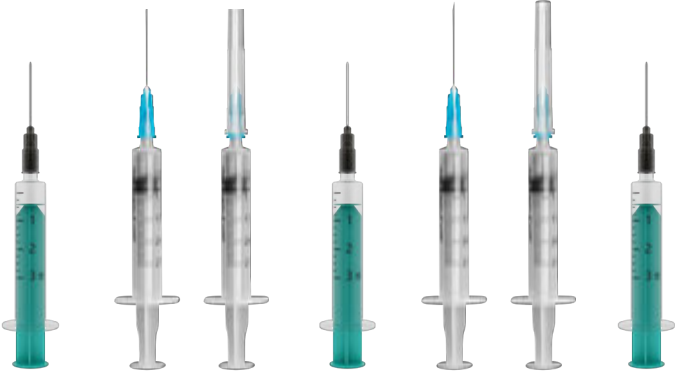
OTHER SHARPS INJURIES: ↓ 26%

TOTAL SHARPS INJURIES: ↓ 33%

Safety engineered devices are not enough

The advancement of safety engineered devices has assisted in the reduction of needlestick injuries, however recent studies show that a safe sharps containment system is paramount in protecting staff and patient safety. Many sharps injuries from safety engineered devices (SED) are due to non-activation.

A recent study conducted with 27 hospitals in 5 Australian cities showed that overall, 54.2% of devices were discarded "sharp". The audit further revealed that only 30.4% of sharps deposited into sharps collectors were Safety Engineered Devices, and of these, 19.4% of were either not activated, or partially activated.



75.5% of hollow-bore needles were either capped or naked, indicating a high proportion of Australian healthcare personnel are unnecessarily at risk of sharps injuries when handling sharps*

Terry Grimmond
Microbiologist | FASM, BAgSc, GrDpAdEd

Partner with us in saving lives

The cost of a needlestick injury

Sharps injuries not only incur substantial financial implications for medical institutions, they also impose a huge emotional burden on healthcare workers and families.

76% of healthcare workers in Australian public and private hospitals are protected by Sharpsmarts. Since their introduction in Australia in 2000, it is estimated that Sharpsmarts have saved more than 20,000 healthcare workers from sustaining a sharps injury.



For 26 years, I was a staff nurse and loved my practice. But one day, I was stuck with a needle protruding from a sharps container. I didn't know it then, but my life was changed forever that day. A few months later, I learned that the fatigue, weight loss and other symptoms I was experiencing were due to exposure to bloodborne pathogens from that needlestick. In the beginning I didn't know if I'd survive or what my life would be like. I had to leave bedside nursing. One thing I was sure of is that my injury was preventable, and I didn't want to see this happen to anyone else.

Karen Daley

PhD, MPH, RN, FAAN

President, American Nurses Association



Sharpsmart

Features & benefits

With over 5 years of research invested into its design and engineering, the Sharpsmart collector is manufactured to precise tolerances to ensure that all safety mechanisms are functional on each and every collector. In its design and proven studies the Sharpsmart is more than just a sharps container, it is an engineered safety device which eliminates risk of container-related sharps injury and minimises the impact on our environment.

Peer reviewed and documented in numerous publications globally, the Sharpsmart system has proven greater reduction in sharps injuries than any other sharps containment system in the world.



Wide opening

The optimal access geometry of the lid opening with a wide aperture for large/awkward sharps minimises disposal-related injuries and restricts hand access to the contained waste.



Maximum strength hardened plastic

The medical grade hardened plastic casing of the Sharpsmart collector is completely impenetrable by contained sharps. The Sharpsmart collector has been test-proven to an amazing 500 cycles proving its durability, sterility and re-usability.



No leak

A liquid seal fixed around the rim of the collector lid eliminates leakage of bodily fluids during transport. Container leakage is a common hazard in sharps collectors that are not equipped with a leakproof seal.



Check contents level

A clearview window identifies the fill level of the collector; a feature unique to Cleanaway Daniels Sharpsmart collectors.



Eliminates overfilling

Once the collector is full, the in-built safety tray is activated into an upright closed position to restrict access and overfilling.



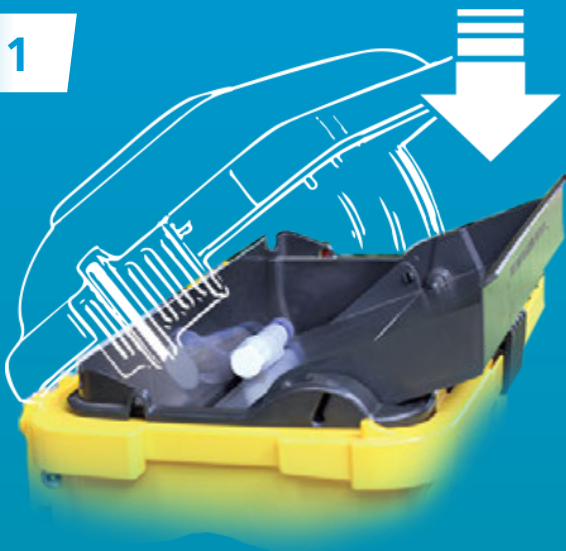
Cannot be reopened

Side locks are tamper proof when engaged. This safety feature prevents unauthorised access to the container contents.

Safe disposal in a single action

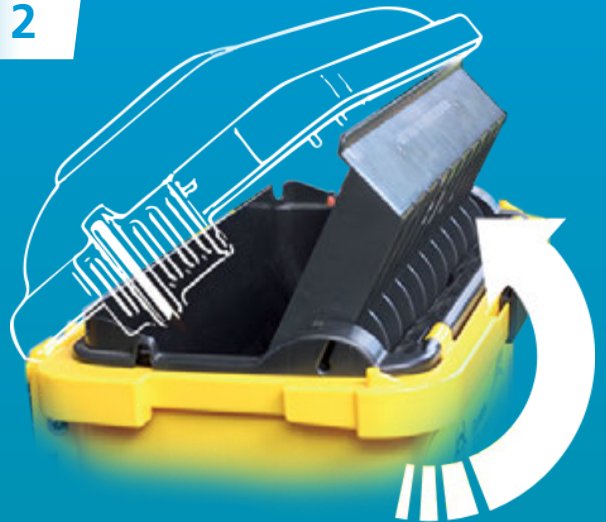
The Sharpsmart collector has been strategically engineered to minimise risk by enabling single-action sharps disposal

1



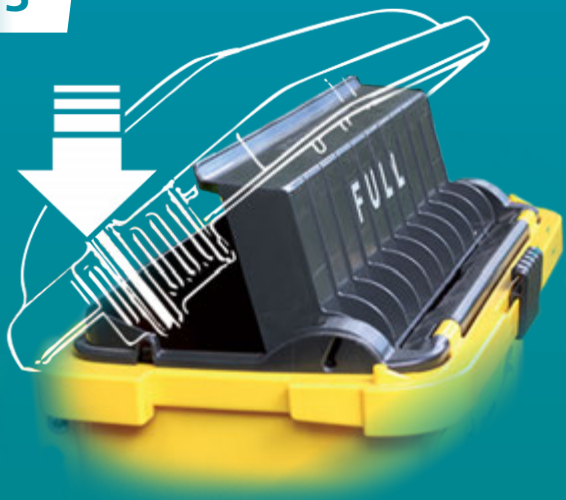
The maximum sensitivity safety tray is activated by the weight of the waste with a single swing action.

2



The safety-tilt mechanism releases the waste safely into the collector away from the user.

3



When static or in motion, the swing-action safety tray effectively conceals the aperture of the container to ensure no hands ever come into contact with contaminated sharps.

4



The gravity balanced mechanism of the tray resets to an open safe-disposal position after each use until the container is full.

Circle of safety



Smart, safe delivery system

Sharpsmart collectors arrive preassembled, thereby eliminating:

- ▶ Waste from cardboard packaging
- ▶ Container assembly time
- ▶ Sharps injuries caused by incorrectly assembled containers



Sharps collectors where you need them

Cleanaway Daniels waste specialists will advise on the best systems for your facility:

- ▶ Collector sizes and locations to optimise changeover frequency
- ▶ Purpose designed interchangeable brackets, trolleys and storage solutions to maximise logistical efficiencies and enable point-of-use disposal
- ▶ Education, support and staff training



Protecting staff and patients

The Sharpsmart's patented swing-action safety tray:

- ▶ Provides a 300mm wide unhindered opening to allow depositing large sharps without force
- ▶ Eliminates hand access to discarded sharps
- ▶ Eliminates overfilling by defaulting to a closed position once sharps volume reaches the fill line
- ▶ In secure areas, where bulky sharps are used or rapid deposition is required, Sharpsmart Access Plus range and the L64 Laparoscopic collector optimise volume, efficiency and safety requirements



Safer when full

When full, the safety tray swings into a upright position to prevent overfilling and risk of sharps injury from protruding sharps. Added safety features of the Sharpsmart collector include:

- ▶ Unique tamper-proof locks
- ▶ Side locks which, once engaged, prevent the collector from being re-opened manually
- ▶ Leakproof seals prevent risk of leakage during movement



No risk in transit

Cleanaway Daniels ensures the highest standards of safety and service even after full Sharpsmart collectors have been removed from your premises:

- ▶ Purpose-built delivery carts enable efficient handling of Sharpsmart collectors within your facility
- ▶ Purpose-built bulk transporters transport Sharpsmart collectors from your facility to ensure that they are kept permanently upright and elevated from the ground to avoid damage, contamination and spillage
- ▶ Sharpsmart collectors meet United Nations PG2 certification standards for the transport of Dangerous Goods



Quality control checks before the cycle starts

Rigorous quality checks are carried out on each Sharpsmart collector before they are returned to service. These include:

- ▶ Washsmart robotic cleaning process which has been tested to prove a 10⁶ log reduction in bacterial load
- ▶ Manual cleanliness checks
- ▶ Manual functionality checks



Environmentally friendly detergent is used during the six stage robotic washing process. The Cleanaway Daniels automated washline does not require harmful chemicals to achieve its high degree of microbiological efficacy.

Our ecologically sustainable technology

Groundbreaking in its engineering, the Cleanaway Daniels Washsmart has been designed to achieve the highest levels of safety, environmental sustainability and decontamination attainable in a robotic ashing process. Proven results in peer reviewed studies show its environmental burden to be dramatically less than any other waste treatment process.

“The Cleanaway Daniels Washsmart cleaning process was independently tested by coating 64L Pharmasmart bins with 6-log blood suspensions of Staph aureus and E. faecalis. On swabbing them after the wash, no challenge organisms were detected – this is a very high level of decontamination.”

Terry Grimmond

Microbiologist | FASM, BAgSc, GrDpAdEd

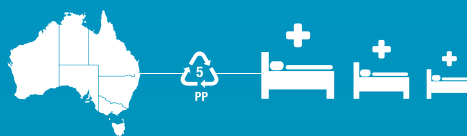


Sustainability

As a company we are passionate about doing business sustainably; empowering the wellbeing of our employees and their communities, driving a spirit of innovation within our culture, and making ecological choices that reduce environmental impact. Harnessing technology to drive sustainable outcomes, Cleanaway Daniels have become globally recognised for sustainable products and waste processing solutions that dramatically reduce environmental burden.

Volume of plastic eliminated annually in Australia.

→ **2.1 TONS PER 100 BEDS**



Weight of disposable sharps containers eliminated from landfills each year by using reusable Sharpsmart collectors.

→ **940,000 KG**



This is equivalent to the weight of nearly three Airbus A380's.

→ **3 X AIRBUS A380**



Annual landfill saved would fill the MCG almost to the top of the boundary fence.

→ **MCG BOUNDARY FENCE**



Sharpsmart

Regular range

Born out of 5 years of research, the engineered precision of Sharpsmart's safety-led design sets it apart as the world's first sharps container qualifying as a proven engineered safety device. Navigating the complexity of safety risks associated with sharps disposal, and combatting the very serious threat of blood-borne pathogens being acquired via sharps injuries, the collector is designed with thirteen unique safety features, each minimising the disposal risk of sharp items used in human and animal medical applications.

S22 Sharpsmart collector

Service code: DS22

440mm (H) x 395mm (W) x 210mm (D)

Capacity 14.5L

Best suited to moderate volume areas and drug trolleys



S14 Sharpsmart collector

Service code: DS14

280mm (H) x 395mm (W) x 210mm (D)

Capacity 6.5L

Ideal for patient room and lighter sharps volume areas



S32 Sharpsmart collector

Service code: DS32

610mm (H) x 395mm (W) x 210mm (D)

Capacity 23.5L

Developed for high volume areas and ideal for use with Cartsmart and floor stand accessories





Sharpsmart Access Plus

Designed for secure areas where unrestricted deposit of sharps is required, the Access Plus collector features a fully opening lid without a tray to provide full access to the collector.*

The Access Plus collector comes in 3 sizes:



S14
Service code: DS14AP
280mm (H)
395mm (W)
210mm (D)
Capacity 6.5L



S22
Service code: DS22AP
440mm (H)
395mm (W)
210mm (D)
Capacity 14.5L



S32
Service code: DS32AP
610mm (H)
395mm (W)
210mm (D)
Capacity 23.5L
Ideal for areas such as anesthetic bays, laboratories, clean-up bays and theatres.

* Cleanaway Daniels recommends that Access Plus collectors are only used in controlled areas.

L64 Laparosmart

Meeting industry demand for a larger receptacle sharps collector for single use medical devices, the L64 is unparalleled in its design and is benchmarked to the same high safety standards to which the Sharpsmart has industry acclaim. For use in secure areas, the L64's foot-pedal operated trolley allows easy manoeuvrability in tight spaces, point of use accessibility, handsfree operation, and its integrated locking mechanism provides a heightened level of user protection. The design of the collector with its enhanced aperture and accessible opening, enables safe disposal of long and awkward devices.

Recommended as a total theatre solution, the L64 with an S22 Sharpsmart mounted on the side of an Accesssmart trolley provides point-of-use sharps segregation. With medical devices and longer laparoscopic and surgical instruments deposited into the L64, the S22 captures smaller needles and finer syringes with the added protection of a counter-balanced safety tray and a no-hands access safety mechanism.



L64 mounted on an Accesssmart trolley with an S22 Sharpsmart bracketed on the side.

S14 Home Solutions Collector

Managing biohazardous waste from home healthcare in a responsible and safe manner is becoming an increasing concern for healthcare professionals, patients and the community in general.

Cleanaway Daniels Home Solutions collector is a fully reusable container which is compliant with all applicable standards and regulations to safely manage clinical waste and sharps waste. The wide opening lid at either 45 or 90 degrees enables easy disposal of waste, and each collector is fitted with a smell absorbent solution to reduce waste odours.

An optional lock gives the collector further versatility for use in community nursing.



Service code: DS14CC

280mm (H) x 395mm (W) x 210mm (D)
Capacity 6.5L

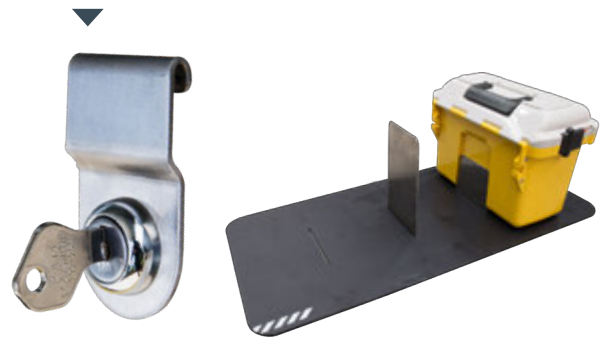
Secure Car-Boot Stabiliser System

To prevent collectors from tipping in a moving vehicle, this unique stabiliser mat has been developed for use with the SharpSmart S14 reusable collector and the D-12 cytotoxic disposable container.

The system fits any vehicle and does not require any screws or fastenings that could damage the vehicle.

The mat and brackets are removable to maximise usable boot space and secure collectors in transit.

Service code: I-11196



Service code: I-11197

Also Available

- ▶ An optional lock to further aid security in-car
- ▶ A range of disposable sharps containers for clinical waste and cytotoxic waste
- ▶ A range of biohazardous waste bags
- ▶ A range of gloves and PPE apparel
- ▶ Disposal reminder tags boot space and secure collectors in transit.



Mounting options

Cleanaway Daniels suite of bracketing and transportation accessories have been engineered to achieve maximum versatility, optimise space, and overcome logistical challenges within clinical environments. Designed with a small footprint to fit into space-restrictive areas, Cleanaway Daniels trolleys and floorstands are fitted with a standard mounting bracket which gives optimum flexibility for point-of-use disposal and efficient movement of collectors.

I-11203 Standard cradle

Easy to install design simply hooks over rail on trolley to allow Sharpsmart collectors to face inwards or outwards. Rugged, non-rust stainless steel construction.

Compatibility: S14, S22 Regular and Access Plus sizes



I-11204 Mounted Cradle

Identical concept and design as Standard Cradle, but with additional mounting plate to attach cradle to a wide variety of trolley designs.

Compatibility: S14, S22 Regular and Access Plus sizes



I-11200 Standard wall bracket

Universal bracket enabling wall mounting of Sharpsmart range. Bracket kit comes with screws and hole-plugs. For wall mounting of Access Plus Sharpsmarts, see Access Plus bracket.

Compatibility: S14, S22 and S32 Regular sizes



I-11378 Wall bracket - Access Plus

For wall mounting of Sharpsmart Access Plus range to allow 90-degree lid opening.

Compatibility: S14, S22, S32 Access Plus sizes



I-23282 Sharpsmart locking wall bracket

Left Side Lock

I-23282

Right Side Lock

For areas where secure, key lock mounting of Sharpsmart collectors is required.

Compatibility: S14, S22 and S32 Regular sizes



I-11206 Locking Mountsmart

Designed for versatile inward or outward mounting of Sharpsmart collectors to allow 90-degree lid opening.

Compatibility: S14, S22, S32 Regular and Access Plus sizes



I-11201 Bench bracket for Sharpsmart S14

Provides secure stabilisation of S14 collectors on a benchtop.

Compatibility: S14 Sharpsmart Regular and Access Plus sizes



I-11202 Bench bracket for Sharpsmart S22

Provides secure stabilisation of S22 collectors on a benchtop.

Compatibility: S22 Sharpsmart Regular and Access Plus sizes



I-11188 Floor stand

Designed for stable floor mounting. Stainless steel and plastic construction is tough and easy to clean.

Compatibility: S14, S22 and S32 Regular and Access Plus sizes



I-11333 64 series floor stand

Designed for stable floor mounting. Stainless steel and plastic construction is tough and easy to clean.

Compatibility: 64 Series only



Storage and logistics

I-12077 MRI Cartsmart

Designed for use in MRI suites and any applications which require non-magnetised equipment. This product has an MRI Conditional Rating.

Compatibility: All Sharpsmart Regular and Access Plus sizes



I-11190 Cartsmart

Enables convenient, mobile, off the floor mounting of Sharpsmarts. Plastic construction is lightweight and easy to clean.

Compatibility: All Sharpsmart Regular and Access Plus sizes



I-12167 Soft close Accessmart

Designed for the 64 Series collectors, this foot-pedal operated trolley also has the added versatility of being fitted with a side mounting bracket to hold Sharpsmart S14 and S22 regular collectors.

Accessmart Trolley Compatibility: 64 Series collectors

I-11374 S-Series Side Bracket Compatibility: S14, S22 regular only



I-11211 Wallsmart storage system

1120mm wide

Unique hook system that enables Sharpsmart collectors to be hung on the wall for efficient storage within hospitals. Modular system of panels can be modified to suit different sized walls and storage areas. Panel size: 1800mm (H)

Compatibility: All Sharpsmart Regular and Access Plus sizes



I-12061 Wallsmart mini

A wall mounted locking system for holding up to 3 Sharpsmart collectors.

Standard panel size: 152mm (H) x 672mm (W)

Compatibility: All Sharpsmart Regular and Access Plus sizes



I-11274 Small internal delivery cart

Custom made delivery cart with rubber buffers and brakes for movement of Sharpsmarts within a healthcare facility. Holds 40 x S14; or 20 x S22 plus 10 x S14; or 20 x S32, or a combination of various sizes.

S-Series Cart Compatibility: S14, S22, S32 Regular and Access Plus Sizes



I-11326 Small 64 internal delivery cart

I-1327 Large internal delivery cart

Custom made delivery cart with rubber buffers and brakes for movement of Sharpsmarts within a healthcare facility. Holds 80 x S14; or 48 x S22 plus 8 x S14; or 32 x S32 plus 8 x S22; or 16 x S14, or a combination of various sizes.

S-Series Cart Compatibility: S14, S22, S32 Regular and Access Plus Sizes



I-11327 Large 64 internal delivery cart

I-11336 Adapter bracket

The 64 Series adapter bracket is designed to mount onto the horizontal bars of the delivery cart to facilitate transport of the large Cleanaway Daniels 64 collector. Each bracket mounts two 64 Series collectors.

Compatibility: 64 Series



Making a safe, sustainable future possible

Stronger together

Cleanaway Daniels presents a dramatic shift from traditional waste management, focusing on helping our customers to find safe and sustainable solutions that work within each individual facility, accounting for staff practices, facility layout and requirements.



Re-refined Base Oil (RRBO) from used oils

*Case Study
October 2024*

CLEANAWAY 

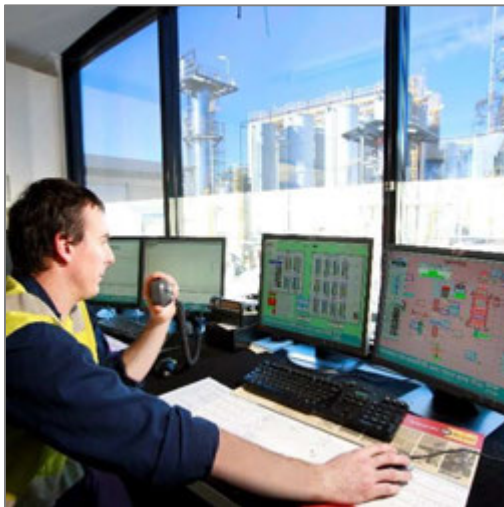
Used oil circularity at Cleanaway

Used Oil Collection and Recycling

Each year, Cleanaway collects used oil such as engine, hydraulic, and used lube oil from over 35,000 workshops and businesses around Australia.

Annually, we process over 150 million litres of used oil, which helps to protect the environment and offsets Australia's oil requirements by approximately 900,000 barrels. We are the largest oil recycler in Australia with facilities to process used oil in every mainland state and territory.

By recycling used oil, we can create a re-refined base oil (RRBO) to reduce Australia's reliance on virgin base oil. We have two used oil refining facilities with a Category 1 status under Australia's Product Stewardship for Oil (PSO), at Wetherill Park and Rutherford in NSW.



Raising industry capability and domestic circularity

At our plants, we turn used oil into a re-refined base oil (RRBO) that can be refined into customer-specific fuel oils or for lubricant manufacture. Most Australian RRBO facilities can produce Group 1 base oils which exceed the API (American Petroleum Institute) industry standard. Cleanaway has now also been able to produce higher quality base oil meeting the Group 2 and 3 standards, which are approved by all major OEMs for use in their engines.

RRBO API quality	Uses	PSO rebate	Production cost	Domestic circularity
Group 1	Low quality blend stock for lubricants outside of major OEMs	\$0.50/L	Base	<10%
Group 2	Blend component to produce lubricants for most major OEMs	\$0.50/L	Base + 20%	>90%
Group 3	Blend component for performance lubricants	\$0.50/L	Base + 40%	>90%

Whilst Group 1 RRBO is predominantly exported overseas given high quality requirements in Australia, Group 2 and 3 oils offer the potential for increased domestic circularity. There is however currently no incentive for oil recyclers to achieve higher qualities as the PSO scheme works on a single rebate tier that hasn't been adjusted for inflation and CPI since its introduction in 2001. Moreover, lubricant blenders have access to low-priced virgin base oils and will not procure higher quality RRBO unless it is competitive with virgin equivalents.

The Product Stewardship for Oil Scheme needs a major overhaul to safeguard used oil collection and recycling

The Product Stewardship for Oil Scheme encourages the increased collection and recycling of used oils (also known as sump oil), closing the loop on oils based on petroleum and synthetics such as:

- Lubricant base oils
- Prepared lubricant additives containing carrier oils
- Engine lubricants, gear sets, pumps and bearings
- Hydraulic oil
- Brake fluids
- Transmission oils



The PSO scheme works on a single rebate tier that hasn't been adjusted for inflation and CPI since its introduction in 2001. The rebate under the current scheme no longer supports the higher processing cost profile of the base Group 1 quality, let alone achieving the higher Group 2 and 3 qualities.

The RRBO product is priced in the market against virgin crude oil but costs more to process. The refineries in Australia are getting older and will require major maintenance overhauls.

Whilst electrification and hydrogen gain traction for heavy vehicle transport, the next 10-15 years will still be dominated by hydrocarbon fuels. Renewable diesel is a drop-in solution to decarbonise heavy transport but will need to continue to rely on lubricants.

Used oil recyclers will be reviewing the ongoing viability of their operations in light of the continued suppression of margins through increasing costs and stagnating revenues from the PSO. Allowing Australia to lose its used oil refining capability could create environmental hazards for future generations and will result in higher carbon emissions.

Creating a circular economy from food and garden waste

Cleanaway Organics Eastern Creek is one way we are working towards building a local circular economy. The facility processes food and garden waste into a high-quality compost that can be used in farms, that in turn produces new food for consumption. By keeping food waste out of landfill, we're also reducing the methane gases that are produced when organic matter breaks down in landfill and contributing towards making a sustainable future possible together.



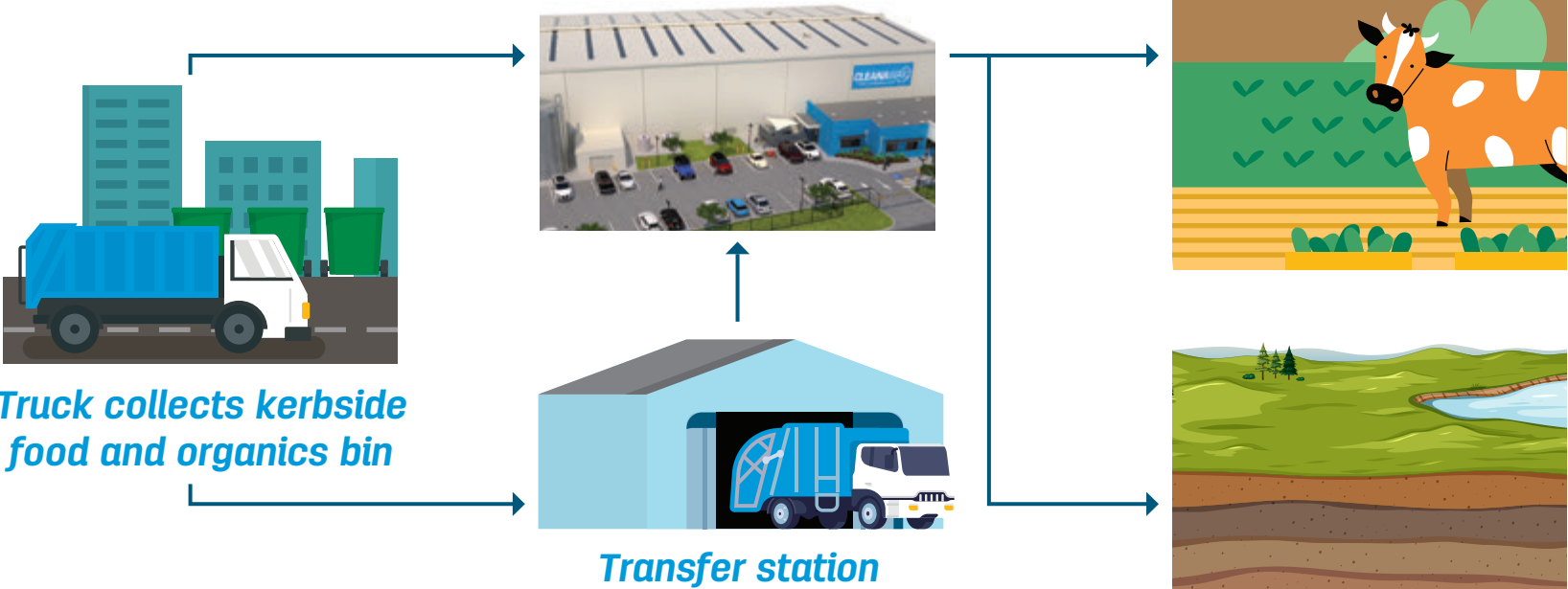
Cleanaway Organics Eastern Creek

Cleanaway Organics Eastern Creek

- Experienced location for processing organics
- State-of-the-art early decontamination process
- Experienced supply chain network for compost into market

Farmland

- Rebuild agriculture
- Reduce erosion



- Strategic locations throughout Sydney
- Efficient and experienced bulk transfer
 - Existing supply chain
- Reduced delivery and collection time
 - Reduced cost and carbon impact through consolidation of loads

Landfill or mine rehabilitation

- Revegetate barren lands
 - Rebuild soil
- Accelerate biodiversity



Cleanaway Compost for Agriculture

Cleanaway's high-nutrient compost product is made from the recovery of organics from household waste. Our compost is processed in a world-class facility to the satisfaction of NSW DPI biosecurity requirements and NSW EPA resource recovery criteria.



QUALITY

Clean, high quality compost can help improve deficiencies in the soil and reduce the amount of synthetic fertilisers you use.



TRUSTED PARTNER

We are committed to sustainability and the circular economy. We are an industry-leading reputable partner compliant with the highest standards and regulatory requirements.



COMMITTED TO A SUSTAINABLE FUTURE

Reduce greenhouse gas emissions and achieve better environmental outcomes with us. We are dedicated to government targets to halve organic waste sent to landfill by 2030.



Exclusive Biomax® composting technology

Using exclusive Biomax® composting technology, our process includes manual screening, sizing, and advanced decontamination techniques such as optical, x-ray, magnetic/non-magnetic separation, and wind sifting. This comprehensive method, followed by secondary screening, allows us to handle feedstock with higher levels of contamination.



Beneficial Properties

Total nitrogen	1.7% – 1.9%
Phosphorus (as P)	~0.36%
Potassium (as K)	~0.97%
Magnesium	~0.33%
Calcium	1.8% – 2.0%
Sulfur	N/A



Physical Properties

pH (1:5) in Water	~8.5
Total CaCO ₃ Equivalent	5.2%
Electrical conductivity (EC)	5.0 – 5.4 mS/cm
Moisture content	~27%
Organic matter content	47% – 50%
Particle size	>100% passing 16 mm
Bulk density	~550 kg/m ³
C:N ratio	15 – 17

Product supply is in bulk suitable for Agriculture and other soil improvement applications.

Location: Cleanaway Organics, Wallgrove Road, Eastern Creek NSW

Contact us: 02 9677 3120

Email: nswcompost@cleanaway.com.au