

WINE PROTECTOR



2023 SUSTAINABLE PACKAGING DESIGN OF THE YEAR - RENEWABLE MATERIALS GOLD WINNER



2023 BEVERAGE PACKAGING DESIGN OF THE YEAR BRONZE WINNER



Planet Protector Packaging Wine Protector

Key Outcomes and Measurement

- Reduces material handling costs
- 900 units fit on a pallet
- Made from cross bred sheep waste wool which is destined for landfill
- Less pallet movements
- Sustainable alternative to expanded polystyrene (EPS) shippers
- Compact design compresses the pack up to 50%
- The insulating wool sleeve stabilises wine temperatures & provide cushioning & impact resistance

Sustainable Packaging Guidelines

Design for Recovery	Optimise Material Efficiency	Use of Renewable Materials	Design for Transport Efficiency



Product: Wine Protector
Company: Planet Protector Packaging
Country: Australia

Planet Protector (PP) is an impact-driven social enterprise on a mission to rid the world of expanded polystyrene (EPS). For more than 7 decades, EPS has dominated cold supply chains. Made from non-renewable fossil fuels, this insidious plastic takes 500 years to break down, if in fact it ever does. It is not kerbside recyclable and hence destined for landfill. EPS is ubiquitous, from packaging to building insulation.

Planet Protector was established in 2016. PP manufactures WOOLPACK, a sustainable and cost-competitive alternative to EPS. Made from crossbred sheep wool, wool unsuitable for textiles and ordinarily destined for landfill. This wool is a by-product from sheep that are being raised for their meat, rather than their fleece. Planet Protector has leveraged the superior thermal properties of wool and monetised a waste stream to create a disruptive insulation product that is revolutionising supply chains. Planet Protector's ingenious products are used to ship everything from fresh food, meal kits, chocolate, and pet food to pharmaceuticals, chemotherapy, blood and animal health. Since inception, Planet Protector has diverted 7220 tonnes of waste wool from landfill, generated \$14.7 million in new revenues for sheep farmers and eliminated 15 million EPS boxes from supply chains. Now, Planet Protector is poised to scale. Onshoring manufacturing to reduce risks, expanding into new verticals such as building insulation, geotextiles and acoustics and first international expansion to Asia.

COORDINATED BY 	ANZ REGIONAL AWARDS PROGRAM 	INTERNATIONALLY ENDORSED BY 	EXCLUSIVE ENTRY TO 	
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- ✓ **Ensure circularity and product stewardship in their products to promote systemic change.**
- ✓ **Design to optimise material efficiency and minimise waste.**
- ✓ **Looking back to nature to solve the world's global challenges.**
- ✓ **The products not only meet the 2025 National Packaging Targets but also address the inconsistency and absence of soft plastics recycling system in the country.**
- ✓ **Communicating responsible behaviour and educating both their clients and end users.**
- ✓ **Creating positive cascading effects that transform system as a whole (change management is essential).**

In the context of your packaging innovation, what do you see as Sustainable Packaging?

Rhea Singh, Sustainability Project Manager, Planet Protector Packaging says, *"Sustainable packaging is packaging that has been designed around the principles of circularity and product stewardship and moves away from the 'take-make-waste' model. It is packaging that considers both its environmental, social and economic impact throughout its life cycle."*

Planet Protector's Wine Protector has been made using our WOOLPACK technology. Sheep's wool is an abundant and renewable resource, especially in Australia and New Zealand. Crossbred wool specifically, the type of wool Planet Protector utilises, is often a waste resource with no market value. Planet Protector has been able to monetise this wool, create a market for it, and generate new revenue for sheep farmers. The Wine Protector, therefore, has had an instrumental positive impact on regional communities and regional economies.

Further to its design, Wine Protector is 100% home compostable at its end of life, meaning it is a zero-waste solution. Importantly, wool breaks down to deliver valuable nutrients back into the soil when composted.

Planet Protector has utilised a waste material to create a sustainable, high-performing and cost-effective product, that directly replaces expanded polystyrene (EPS), a problematic plastic that has created a global pollution waste problem. Our innovative Wine Protector is a building block for the circular economy.

What would you say were the decision-making drivers (Internal and External) influencing your packaging design?

Planet Protector was established to provide a sustainable packaging solution to businesses requiring insulated packaging for cold chain logistics. Since its invention in 1954, expanded polystyrene (EPS) has been the 'go-to' for many of these businesses, the wine industry included. EPS is an insidious and destructive plastic that devastates both marine and terrestrial environments, moves up the food chain and is increasingly a threat to human health.

Australia is the fifth largest wine producer globally, and exports are a fast-growing sector of the Australian wine market. Australian wines are exported all over the world to wine critics and trade events in Europe (market research from Colby Philips Advisory estimates approximately 800,000 units annually). Extended Producer Responsibility (EPR) was legislated in Europe and implemented decades ago. This means that if wine is shipped from Australia in EPS or in fact any unsustainable packaging, it will be rejected as they do not accept EPS. Winemakers are increasingly concerned about their packaging material and they know that customers are making purchasing decisions underpinned by the growing environmental momentum. Winemakers go to significant efforts and expense to craft sensory profile, packaging designs and shelf-life properties. The Wine Protector has been designed to deliver an outstanding customer experience. It can be delivered flat-packed and compressed to 50% of its original size. This means savings in storage, transportation, materials handling and a lower carbon footprint. These functionalities support wineries to reduce their overall costs and product waste.



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What benefits does this new design offer your business and your consumers? Why is the pack more sustainable?

Planet Protector's Wine Protector is made of an insulating wool sleeve to stabilise wine temperature and provide cushioning. The Wine Protector offers many benefits to our consumers. Core to its design, Wine Protector offers insulation as well as cushioning during transit. Wines today are transported all over the world and unless they are transported in a refrigerated container, it is relatively likely that they will be subjected to temperature fluctuations during transport. Wine Protector, due to wool's superior insulating qualities, has been designed to stabilise temperature and prevent spoilage, thereby reducing waste.

The Wine Protector is a fully customisable solution, available in a classic, deluxe and custom format. The Wine Protector is also space efficient through its compact design; it is delivered flat packed, reducing materials handling costs and lower storage space. Wine Protector thereby improves utility use as well as logistical efficiencies. Wineries and cellar doors are generally space-constrained making this a high value-added design feature.

Australia became wealthy as a nation off the wool on the sheep's back and as a consequence, we have great affinity with sheep and the wool industry. Wine Protector is made of 100% Australian wool, and this resonates with the winemakers as it very much differentiates their brand and they are able to craft a beautiful story about how their premium Australian wine is wrapped with love in Aussie wool. They report that this enhances their brand and is a demonstrable statement that reinforces their sustainability values.

The Wine Protector has been designed to optimise material efficiency, minimise waste and deliver an outstanding customer unboxing experience.

What volumes of materials, packaging and waste have you saved by designing this new packaging?

Did you do this through changing materials, lightweighting, recycled content, making the packs recyclable or reusable?

Planet Protector, with the development of Wine Protector, has utilised an existing waste material, crossbred wool, to provide a sustainable alternative to EPS, a destructive plastic that has dominated the industry for 70 years. The use of EPS packaging fits within a traditional linear 'take-make-waste' model of production; whereas Wine Protector provides the opportunity for a systematic change in production. The Wine Protector is a circular, zero-waste solution optimised for circular innovation throughout its lifecycle.

When comparing of number of units on a pallet, the Wine Protector is 87% better than the standard Australian Wine Shipper. Moreover, the Wine Protector is 30% lower in weight compared to the standard Australian Wine Shipper.

In comparison to the previous prototypes, multiple components were eliminated to make the packaging simpler in design, lightweight and more efficient to manufacture. The final improvement was a self-closing design which required no additional components to envelope the wine.

How much on-pack and off-pack information do you provide your customers?

The Wine Protector is a smart packaging solution with an attractive soft textural feel. The standard range includes a tag with educational instructions for responsible disposal, with a QR code to their PPP website and social media. The Wine Protector packaging influences the customer's perception of the wine, as the packaging is not only aesthetic but also provides information about the wine.

Subject to minimum order volumes customers can craft their own brand messages and logos, with some additional information about disposal of packaging. The packaging also incorporates the Australasian Recycling Label that effectively communicates the end-of-life of the packaging. This creates a packaging solution unique to every customer, allows immersive and informative packaging and enhances the brand image.

In addition to communicating responsible behaviour through various platforms, Planet Protector also participates in trade shows, industry events and speaking engagements. Educating both clients and their end users increases the recovery rate of the product thus lowering environmental impact.



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What do you feel will be needed to further improve packaging design in the future? (e.g. education, investment, policy/legislation, tech, etc?)

Education, policy and legislation are paramount to further increase the use of sustainable packaging and improve packaging design. Europe, in legislating Extended Producer Responsibility (EPR), has massively shifted the way wine is packaged in Europe and even across the globe. Australian winemakers who want to export to Europe have to follow EPR regulations and standards. This has seen a massive increase in demand for sustainable packaging and a shift away from EPS which is banned in Europe due to their EPR legislation. With the Australian government also setting targets to phase out EPS as well as implementing mandatory climate reporting from 2024, many businesses are being encouraged to look for alternatives.

With increased awareness and education surrounding the climate crisis and environmental problems, ESG is driving the demand underpinned by sustainability concerns. Customers are demanding sustainable packaging, packaging that they, as the end user, can either responsibly dispose of through recycling, composting or reuse in their own homes. Sustainability is at the forefront of the Australian wine industry, as well as many other industries.

What does your company have planned in the future? Any new innovations on the horizon?

As a start-up, Planet Protector is proud to have recently invested in their own state-of-the-art manufacturing capability allowing them to onshore their manufacturing, vertically integrate their supply chain and expand beyond thermal packaging. It was always their vision to bring sovereign manufacturing back to Australia, however they had no other option but to rely on China for their supply. The most exciting part of the new machinery is it will enable them to launch their new 100% sustainable wool insulation for energy-efficient buildings. Wool is nature's smart fibre and the best natural insulator on the planet.

In addition, this will also open opportunities for contract manufacturing to support other businesses to onshore their manufacturing and create sustainable non-wovens through our new machinery, the only one in the Southern Hemisphere.

Planet Protector has unashamedly audacious goals, they are also currently expanding their operations into India where 60% of the world's pharmaceuticals are manufactured. Their pharma packaging is a sustainable and cost-effective alternative to EPS which is the 'go-to' in India as there is no alternative. Planet Protector's Woolpack is the solution and they are excited to penetrate new markets and expand their production internationally. They have big plans for 2024 and their future!



As a winner of the PIDA awards, how valuable is the award to your organisation?

Rhea Singh, Sustainability Project Manager, Planet Protector Packaging says, "Winning the Australasian Packaging Innovation & Design Award (PIDA) is a significant achievement for businesses to showcase their innovative technologies and products. The PIDA Award has most definitely recognised Team Planet Protector's expertise, dedication and credibility in developing packaging solutions that are part of a circular model."

Winning this prestigious award has increased our market visibility to attract new opportunities and opened doors for future collaborations and partnerships beyond Oceania. The PIDA Awards have really had a profound impact on our team and business as a whole.



You have been awarded a WorldStar Packaging Award. What does this mean to your business?



"We are so thrilled with this global recognition for our ingenious Wine Protector. The wine industry is a sector that holds itself accountable to extraordinarily high sustainability standards and we are excited to be supporting them to maintain temperature stability of wines in transit be it through e-commerce, wine clubs or cellar doors," says Joanne Howarth MAIP, Chief Executive Officer, Planet Protector Packaging.



The Australasian Packaging Innovation & Design (PIDA) Awards are an Australia and New Zealand program that is coordinated by the Australian Institute of Packaging (AIP). The awards recognise companies and individuals who are making a significant difference in their field across Australia and New Zealand. The PIDA Awards are the exclusive entry point for Australia and New Zealand for the prestigious WorldStar Packaging Awards.

The Design Innovation of the Year company awards recognise organisations that have designed innovative packaging within each of these six manufacturing categories:

- Food
- Beverage
- Health, Beauty & Wellness
- Domestic & Household
- Labelling & Decoration
- Outside of the Box

There are four special awards available:

- Sustainable Packaging Design
- Save Food Packaging Design
- Accessible & Inclusive Packaging Design
- Marketing Award

The **Sustainable Packaging Design Special Award** is designed to recognise companies that have developed innovative packaging solutions that incorporate sustainability considerations. All entries are judged on Sustainable Packaging Design considerations such as social impact, material, source reduction, energy and recovery and what packaging changes the company is undertaking to meet the 2025 National Packaging Targets. This is also a WorldStar Packaging Awards category.



The Australian Institute of Packaging (AIP) is the peak professional body for packaging education and training in Australasia. The AIP helps shape the careers of generations of packaging professionals – from packaging technologists to international packaging business leaders along with a host of people in associated disciplines – sales and marketing, purchasing, production and environment.

Australian Institute of Packaging

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