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SUSTAINABLE WINES OF GREAT BRITAIN

Sustainable Packaging Toolkit



How To Use This Guide

This toolkit is a one stop document to help you make the most sustainable packaging choices that work for your business.

Section 1: Introduction and Context

This section provides essential background for anyone working in or with the wine industry. It covers key definitions, environmental impact, consumer trends, and why packaging sustainability matters. Recommended for all readers.

Section 2: Packaging in Practice: A Guide for Wine Producers

This is the hands-on, practical core of the guide – ideal for wine producers and business owners. It includes real-world examples, supplier advice, and practical tools to help you make informed, sustainable packaging decisions.

Section 3: Compliance and Policy

This section offers a deeper dive into the regulatory landscape and support schemes. It's particularly relevant for consultants, sustainability officers, or producers operating at scale who need to stay compliant and informed on national and industry-level policies.

Section 4: Insights and Further Learning

For those wanting to explore beyond the basics, this section signposts further reading, and researching. It's useful for anyone looking to deepen their understanding or stay on top of developments in sustainable wine packaging.

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Thank You

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Section 1:

Introduction and Context

Introduction

The landscape of packaging within the wine industry is evolving rapidly, driven by regulatory changes, sustainability initiatives, and consumer expectations. This guidance document serves as a comprehensive resource for navigating the complexities of responsible packaging. Whether you are looking to ensure compliance, adopt best practices, explore alternative materials, or understand the future of packaging, this document provides the insights and tools needed to make informed decisions.

We cover key areas such as:

- Training & Compliance: Meeting industry standards, including Portman Group regulations, wine packaging requirements, and legislative frameworks.
- Best Practices & Alternatives: Exploring innovative solutions, sustainable packaging materials, and circular economy principles.
- Life Cycle Understanding: Gaining a holistic view of packaging impacts from production to disposal.
- Future Trends & Regulations: Anticipating upcoming changes such as Extended Producer Responsibility (EPR) and Deposit Return Schemes (DRS).
- Industry Schemes & Research: Insights into initiatives like the Bottle Weight Accord and research shaping the future of packaging.
- Practical Tools & Checklists: Covering carbon footprint measurement, policy templates, and consumer perception insights.
- Collaboration & Resources: Engaging with key packaging partners, including WineGB Partners and Patrons, as well as spotlighting useful resources such as the Porto Protocol Guide.
- Growing retailer demand: Examines the scale of opportunity and what major players like M&S are looking for.

What do we mean by ‘packaging’?



Glass Bottles



Corks



Screw Caps



Labels



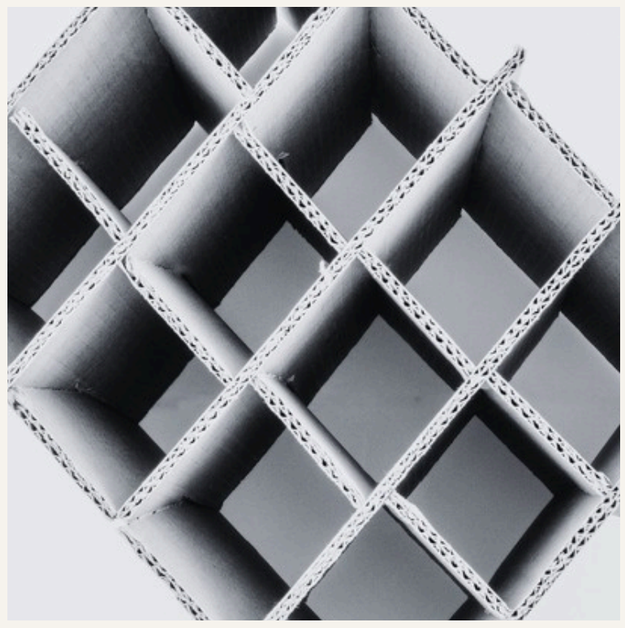
Foils



Cans



Bag-in-box



Protective inserts



Pallet Wraps

Sustainability at a Glance

When considering sustainable packaging, key factors include:

- Weight of materials, as lighter packaging reduces transport emissions
- Use of recycled content to minimise reliance on virgin resources
- Recyclability is crucial, ensuring that packaging can be easily processed within existing waste systems.
- Durability and reusability can help extend the life cycle of packaging, reducing overall waste.

Businesses must balance these factors with functionality, cost, and consumer convenience to create truly sustainable packaging solutions.

Bottles and Alternatives

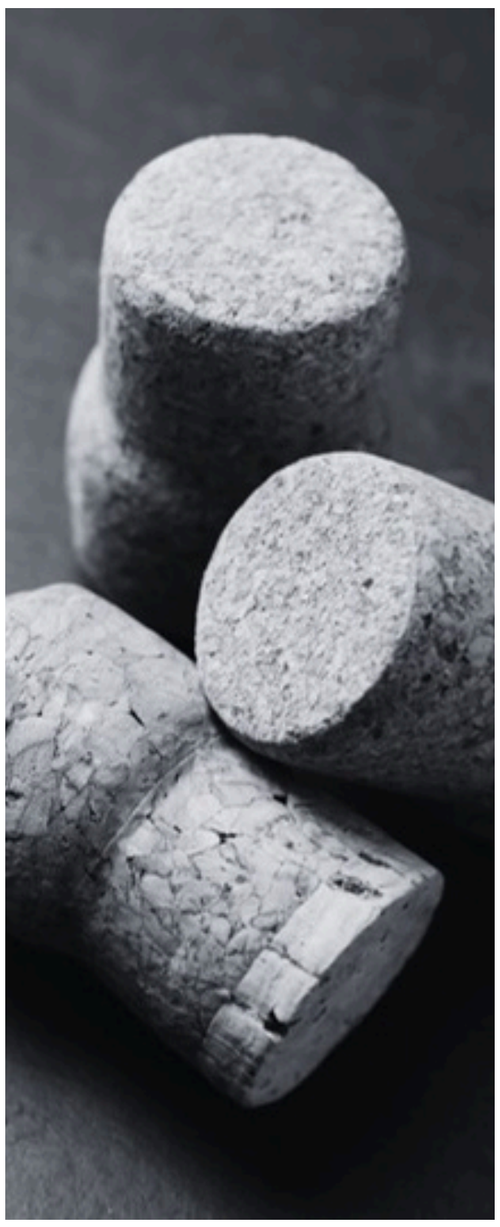
Heavyweight Glass increases carbon footprint without necessarily improving wine quality

Lightweight Glass Bottles reduce carbon footprint in production and transportation. Some producers have cut bottle weight by 20-40%, leading to significant CO_2 reductions.

Recycled Content in Glass Using recycled glass lowers energy consumption and raw material use.

Alternative Materials (Paper Bottles, PET, Aluminum Cans, Bag-in-Box) can lower emissions in production and transport but require strong and consistent recycling systems.





Closures

Synthetic Corks are made from plastic, are difficult to recycle, and contribute to plastic waste.

Natural Cork is biodegradable, renewable, and carbon-negative due to cork oak forests capturing CO_2. Some producers use certified sustainable cork (e.g., FSC-certified).

Technical & Agglomerated Corks offer a sustainable option with reduced risk of 'corked wine'.

Aluminum Screw Caps are recyclable but require separation from the bottle. Carbon footprint depends on whether they are made from recycled aluminum.

Foils, Capsules and Wax Seals

Wax Seals may look premium but complicate bottle recycling and consumer disposal.

PVC & Plastic Capsules are not widely recyclable and contribute to plastic waste.

Foil-Free Design some wineries are eliminating foil or plastic capsules, reducing waste and simplifying recycling.

Aluminum or Tin Capsules are recyclable in theory but often recycled incorrectly or inconsistently.





Labels and Inks

Plastic or Metallic Labels are often difficult to remove and interfere with glass recycling.

Recyclable Paper Labels improve bottle recyclability compared to plastic-coated or metallic labels.

Minimalist & Direct-Print Labeling printing directly onto bottles reduces label waste and removes the issue of not being able to remove the label when it comes to recycling the bottle.

Water-Based & Soy-Based Inks have lower volatile organic compounds emissions and better environmental impact than petroleum-based inks.

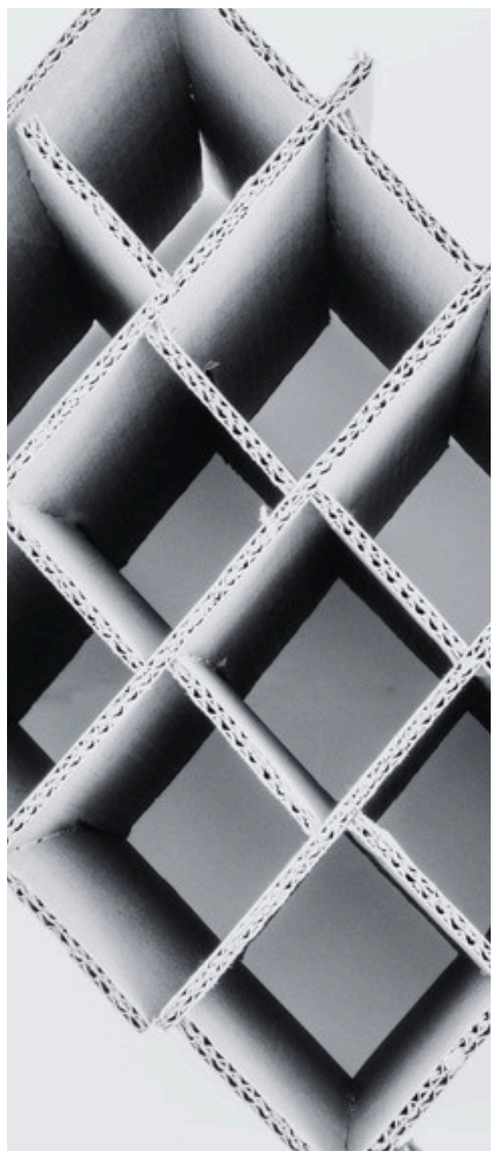
Outer Packaging & Transport Materials

Plastic Shrink Wrap & Straps are deemed necessary for pallet stability but are hard to recycle. Some companies are switching to biodegradable alternatives.

Recycled & Recyclable Cardboard has high post-consumer recycled content which reduces deforestation impacts and is widely recyclable for consumers.

Biodegradable & Compostable Packing Materials such as mushroom-based or recycled paper inserts instead of polystyrene which will not biodegrade and end up at landfill.

Pallet Optimisation reducing space and weight per shipment lowers transport emissions.

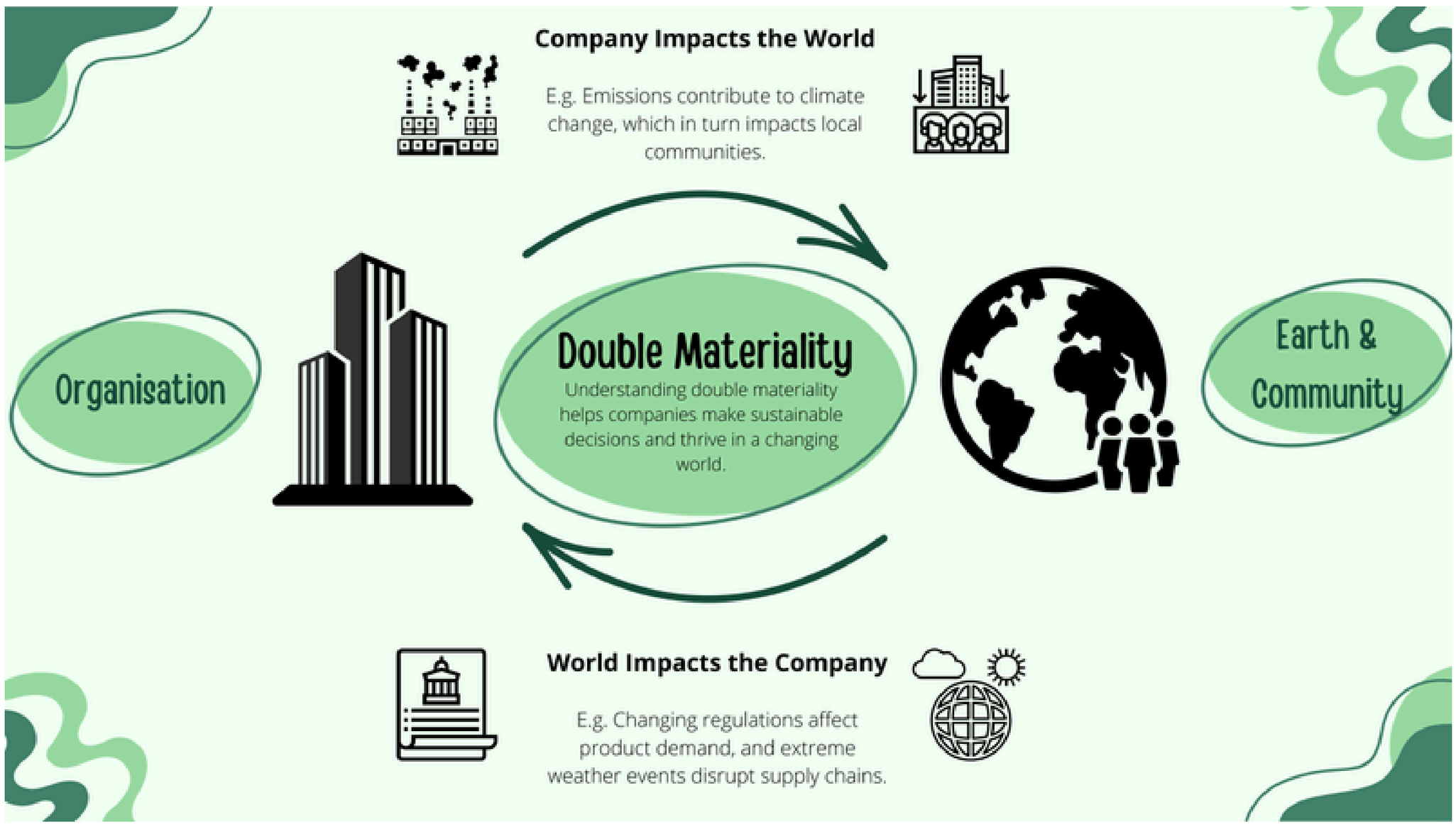


Environmental Impact

The best way to assess your environmental impact is to do what is known as a 'materiality assessment' or 'double materiality assessment'. This can be as simple or as complicated as needed, but it's essentially looking at what the biggest environmental impact is upon you (e.g. floods) and what is your biggest impact on the environment (e.g. the carbon footprint of using glass). Then you prioritise your actions as to what can mitigate those impacts. For wine producers, this usually distills down into the need to improve soil health on the one hand (both for climate resilience and for sequestration), and to decarbonise packaging on the other.

To effect change in either of these areas, the first step is to get a baseline understanding of your current position. This can be through good soil testing or a life cycle assessment of your packaging.

The structure of Sustainable Wines of Great Britain (SWGB) and the free carbon calculator can be a good first step if you don't know where to start



Once you've completed a materiality assessment you are able to see what your largest impacts are and can then begin tackling your highest impact areas. If you look at the carbon impact of all areas of the winemaking production line, it is obvious what a large impact the packaging choices you make have on the environment.

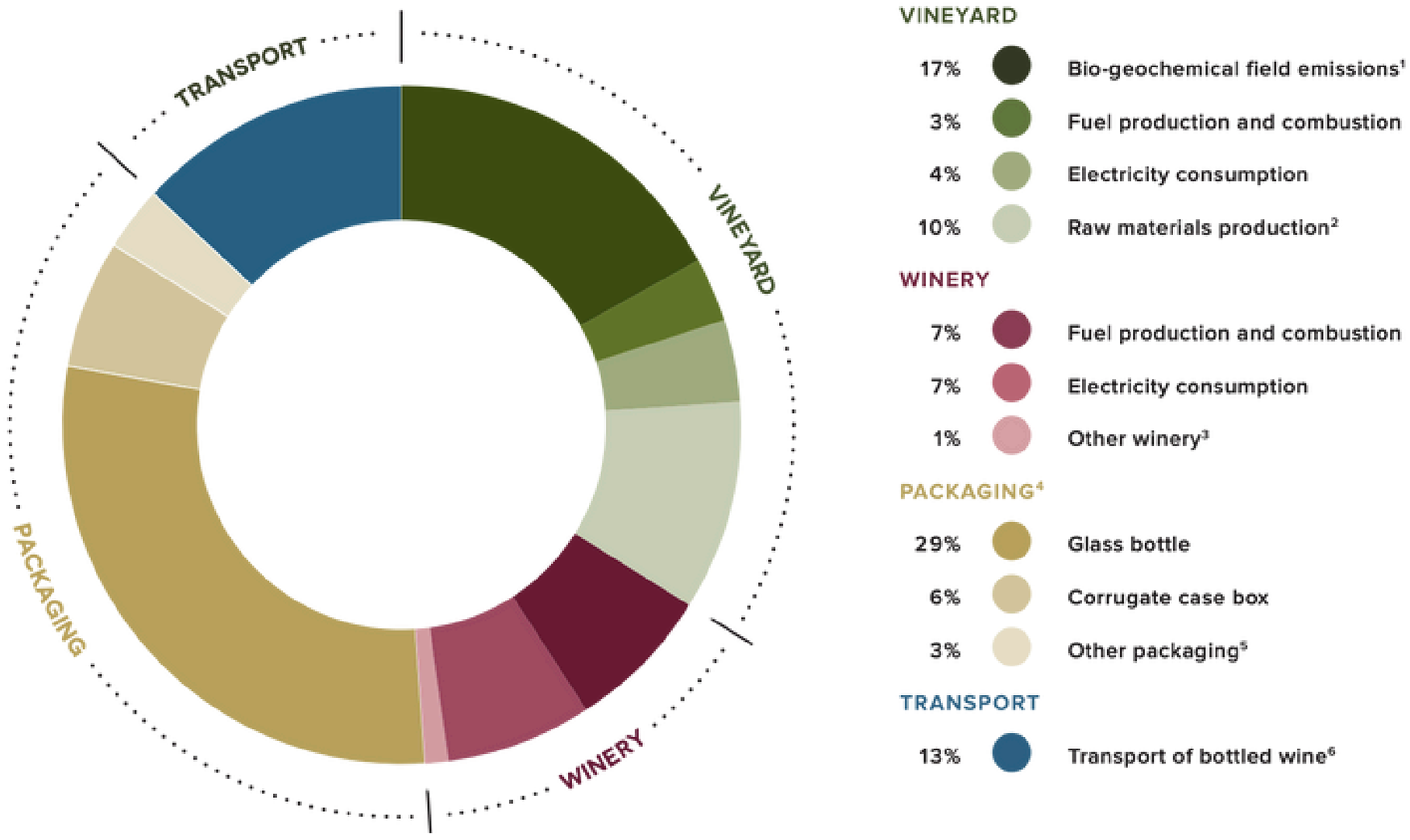


Image: California Sustainable Winegrowing Alliance

An average glass bottle (440g) creates over 550g of carbon even when including recycled content. This is due to the mining and dredging of the raw material which is not renewable and the huge amounts of energy to fire the furnaces to create the heavy weight glass bottle.

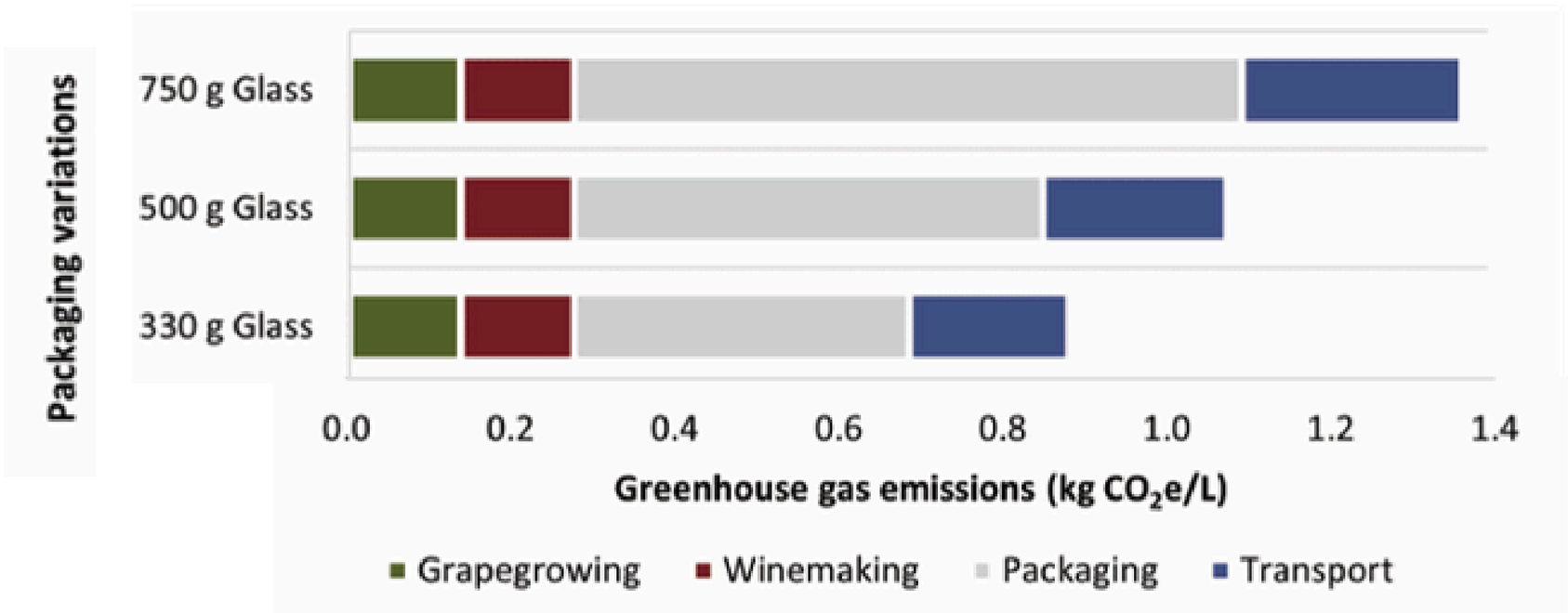


Image: Life cycle analysis of Australian wine (Hirlam et al. 2023)

Life-Cycle

Life Cycle Assessments provide clear comparisons between different materials, typically focusing on carbon emissions, water usage and primary energy usage. This information can help you to make an informed decision based on your own sustainability focus. We have broken down the life cycle of packaging into
4 categories:

1
Production

2
Distribution and Retail

3
Usage

4
Post Usage and End of Life

Production

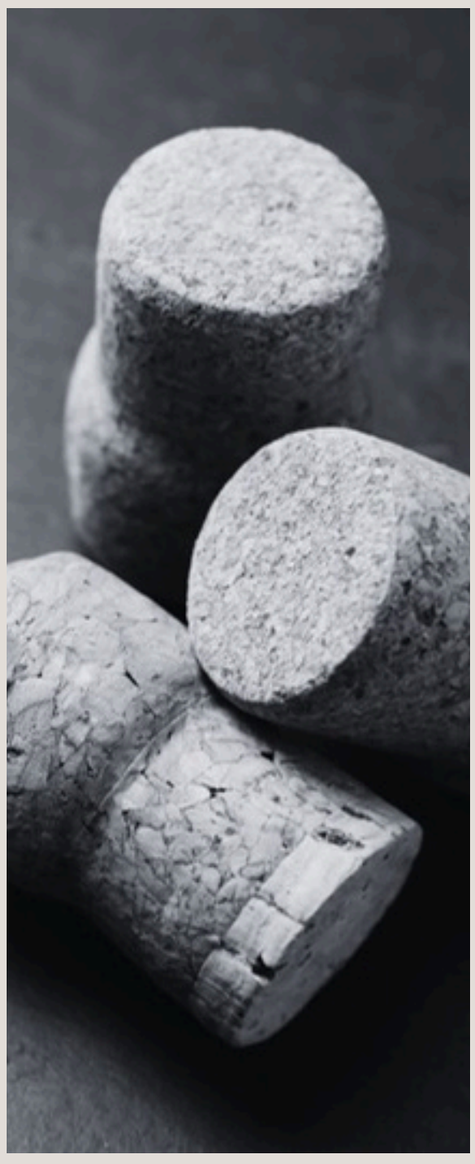
When considering the environmental impact of packaging, understanding the impact at the production level is essential. Each material, whether traditional like glass and cork or alternative like PET and aluminium, carries unique impacts in terms of carbon emissions, water use, energy consumption, and recyclability. The following summary outlines the key environmental considerations for commonly used packaging materials in wine, helping producers and buyers make informed, eco-conscious decisions.



Glass Bottles

Glass production involves melting silica sand, soda ash, and limestone at extremely high temperatures (around 1,500°C), which results in significant energy use and carbon emissions. Despite this, glass is made from abundant raw materials and is infinitely recyclable without degradation in quality. However, producing new (virgin) glass still carries a high environmental cost, especially when not using recycled content (cullet).

- Carbon impact: ~0.33 kg CO_2e per kg of glass produced
- Water use: Moderate, largely for cooling.
- Improvement potential: Using recycled glass can reduce emissions by up to 30% .



Natural Cork Closures

Cork is harvested from the bark of cork oak trees, primarily in Portugal and Spain. The harvesting process is non-destructive, as the trees are not cut down and the bark regenerates every 9–12 years. Well-managed cork forests actually support biodiversity, protect against desertification, and sequester CO_2. However, poor management or monocultures can reduce habitat quality.

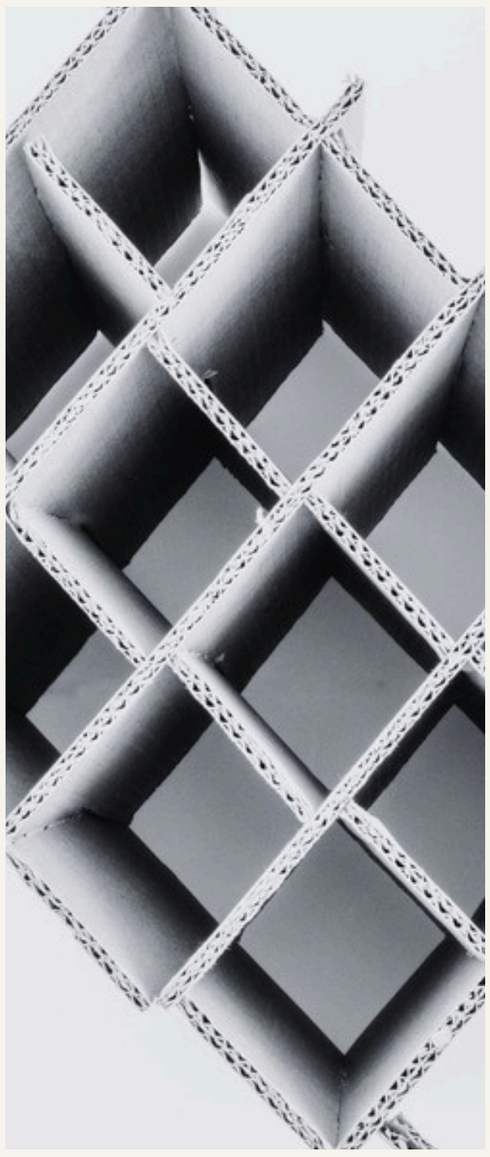
- Carbon impact: Corks are carbon-negative when forest management and sequestration are accounted for .
- Improvement potential: Maintain FSC-certified or sustainably managed cork sources.



Aluminium Cans

Aluminium is extracted from bauxite ore through energy-intensive mining and smelting processes. The initial environmental cost is high due to land disruption and significant greenhouse gas emissions, particularly from the use of perfluorocarbons (PFCs) in smelting. However, aluminium is infinitely recyclable, and using recycled aluminium requires only 5% of the energy compared to producing new aluminium.

- Carbon impact: ~1.88 kg CO_2e per kg of aluminium (virgin); significantly lower when recycled .
- Mining impact: High; deforestation, water contamination, and social disruption.



Cardboard Packaging

Cardboard is made from wood pulp, typically from softwood trees. The pulping process is water- and energy-intensive and, if poorly managed, can result in significant water pollution, particularly from bleach and chemical discharges.

- Carbon impact: Depends on energy source and recycling content; recycled cardboard has much lower emissions.
- Water use: High – one tonne of virgin paper can use up to 100,000 litres of water .
- Improvement potential: Use FSC-certified, recycled-content board and closed-loop water systems in production.



Plastic Pallet Wrap

Usually made from low-density polyethylene (LDPE), pallet wrap is used to stabilise products on pallets. While lightweight and effective, LDPE is made from fossil fuels and is often non-recyclable through household waste streams.

- Carbon impact: Moderate; made from oil-derived materials, though lower overall material use compared to heavier options.
- Improvement potential: Use recycled content wraps or switch to reusable strapping systems.



PET Plastic Bottles

PET (polyethylene terephthalate) bottles are made from petroleum-based polymers and are lightweight, transparent, and shatterproof. Producing virgin PET is energy-intensive, but recycled PET (rPET) significantly reduces emissions and resource use. rPET also supports a circular economy when effectively collected and processed.

- Carbon impact: Virgin PET ~2.1 kg CO_2e/kg; rPET ~0.45 kg CO_2e/kg .
- Improvement potential: Increase use of rPET and improve recycling rates.



Polystyrene Protective Inserts

Expanded polystyrene (EPS) is lightweight and protective, commonly used for shipping wine bottles. However, it is made from petroleum, which is not biodegradable, and difficult to recycle due to contamination and limited recycling infrastructure. Its production also emits harmful volatile organic compounds (VOCs).

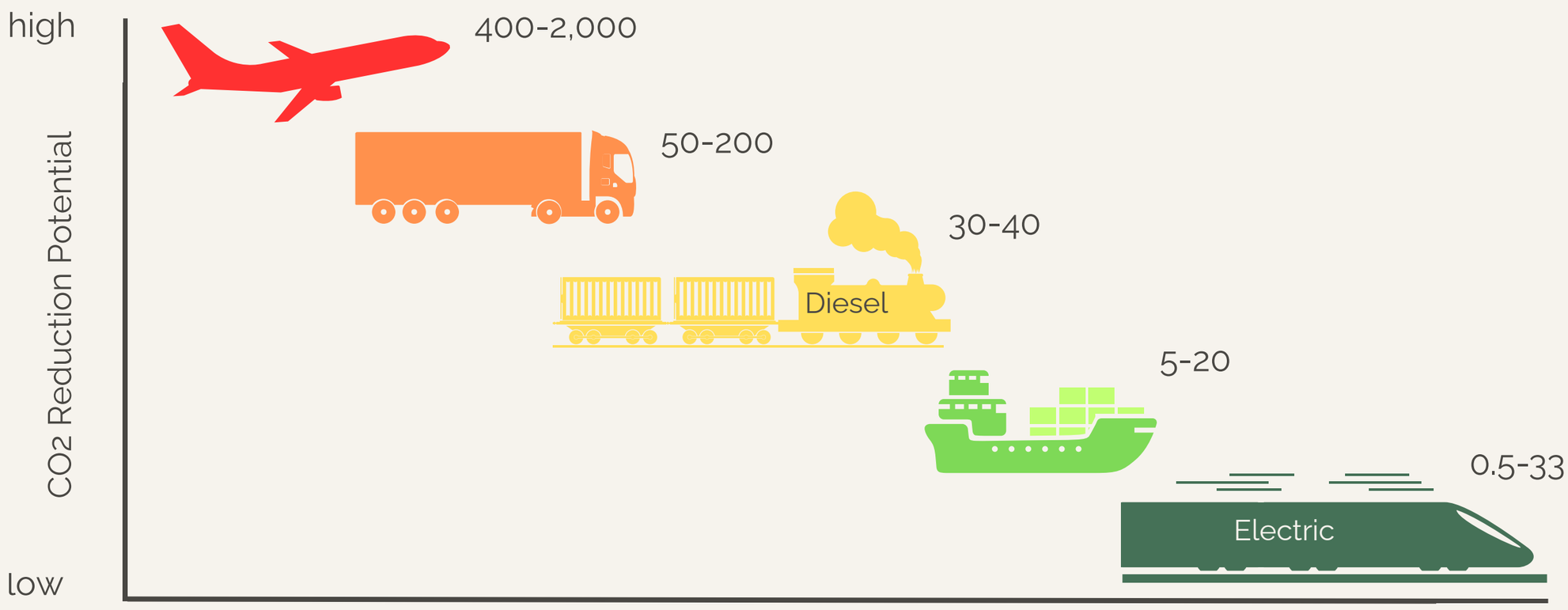
- Carbon impact: ~3.4 kg CO_2e per kg of EPS .
- Improvement potential: Replace with moulded pulp, recycled cardboard, or biodegradable options.

Distribution and Retail

Transport emissions are a major contributor to the overall carbon footprint of wine packaging. The weight, shape, and volume efficiency of different materials, combined with the mode and distance of transport, significantly influence their environmental impact.

Hillebrand Gori's logistics data shows that transportation of filled glass bottles emits significantly more CO_2 than bag-in-box or canned wine formats over the same distance, particularly when using air freight or long-haul trucking. This graph displays the carbon impact of each mode of transport that is typically used to transport wine from producer to consumer, both domestic and international.

Vehicle Efficiency (gCO2e/TKM, WtW*)



Source: Hillebrand Gori

Vehicle specific efficiency factor (gCO2e/TKM WtW) x Transport distance (km) x Shipment Weight (t) = Shipment Footprint (CO_2)

* gCO2e/TKM stands for grams of carbon dioxide equivalent per tonne-kilometre, a metric used to quantify the greenhouse gas intensity of a transportation activity. WtW (Well-to-Wheel) refers to the total emissions from the production and use of fuel, encompassing everything from extraction to the vehicle's exhaust.

Glass bottles are the heaviest wine packaging format, which significantly increases carbon emissions during transport particularly over long distances or when shipped by air. While they are ideal for local distribution or premium wines where tradition and presentation are valued, their environmental impact in logistics is comparatively high.

Aluminium cans offer a much lighter and more durable alternative to glass, making them far more efficient for transport. Because they require less protective packaging and take up less space, they're ideal for export, ready-to-drink products, and wines intended for younger or on-the-go consumers.

PET plastic bottles, particularly those made from recycled PET (rPET), weigh up to 80% less than glass bottles. This results in a substantial reduction in transport-related emissions.

Bag-in-box (BiB) packaging is one of the most transport-efficient options available.
It can carry more wine per pallet than bottles, dramatically reducing the environmental footprint of shipping. With up to 80% fewer transport emissions compared to bottled wine.

Packaging Type	Weight Efficiency	Fragility	Transport Emissions	Best Transport Use
Glass Bottle	Heavy	Fragile	High	Local, premium, traditional
Aluminium Can	Light	Durable	Low	Export, convenience formats
PET Bottle (rPET)	Very Light	Durable	Low	Ecommerce, large-scale export
Bag-in-Box (BiB)	Lightest	Durable	Lowest	Domestic, bulk, on-trade

Usage

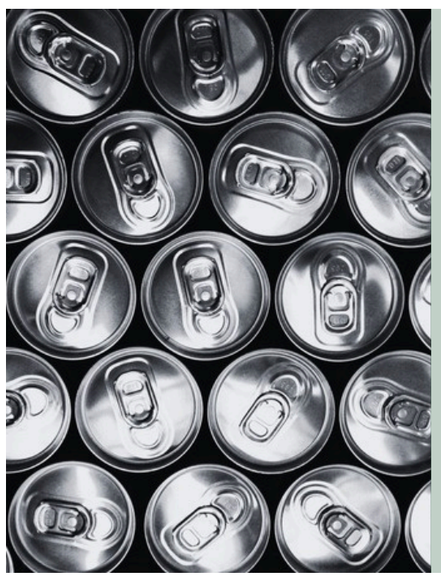
The usage stage of packaging, how it functions during its life with a retailer or consumer, plays a critical role in sustainability. This includes how long wine can be stored safely, how efficiently it can be refrigerated or stacked, whether the packaging can be reused or must be discarded after one use, and the risk of product spoilage due to packaging failure.



Glass bottles are highly durable and inert, meaning they do not react with the wine and preserve quality over time. They are ideal for long-term aging, especially in traditional wine markets. However, they are inefficient in terms of storage space due to their shape and weight. Glass must also be cooled longer before serving, requiring more energy in refrigeration.

Natural cork allows micro-oxygenation, which is beneficial for wine ageing, but poses a risk of cork taint (caused by TCA contamination), potentially leading to spoilage and product waste.

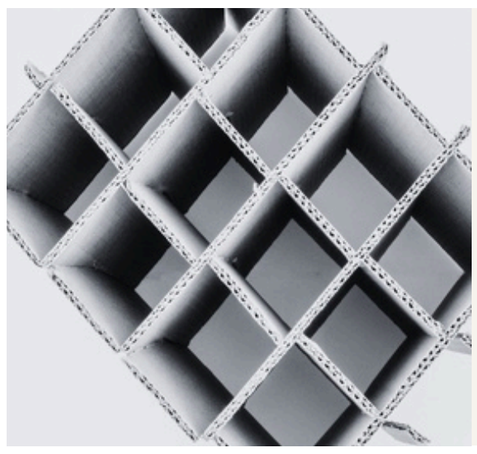




Aluminium cans are excellent for short-term wine storage, especially ready-to-drink and single-serve formats. They are quick to cool, using less refrigeration energy, and space-efficient in fridges or shipping cartons. However, they are not suited to wines that require ageing and must be consumed within 12–18 months.

Foils, wire hoods, and capsules are secondary packaging elements which are used for branding and tamper protection. They are single use and often damaged in removal.





Cardboard is often used for outer packaging or trays rather than primary wine storage. It is usually single-use, though it is widely recyclable. However, it absorbs moisture, making it unsuitable for humid or wet environments without liners.

Pallet Wrap is used to stabilise pallets during transport and storage, plastic wrap is a single-use petroleum-based material that is rarely recycled due to contamination and complexity. It has no further use at the consumer level.





PET bottles are lightweight and durable, with low risk of breakage. They require less energy for refrigeration and are more stackable than glass. However, PET is permeable to oxygen, limiting wine shelf life to around 12–18 months, making it unsuitable for wines meant to age.

Bag-in-Box packaging is very efficient for both storage and refrigeration. The flexible bag contracts as wine is dispensed, minimising oxygen exposure and allowing wine to stay fresh for 4–6 weeks after opening. Bag-in-Box is not suited to wines requiring long ageing.





Polystyrene peanuts are used mainly for shipping wine (especially DTC and e-commerce), polystyrene is non-biodegradable and rarely recycled. It is designed for single-use protection.

Post Usage and End of Life

Packaging materials have a significant environmental footprint after they are discarded. At the post-usage level, packaging waste contributes to pollution, resource depletion, and greenhouse gas emissions if not managed correctly. Some materials are easily recyclable or reusable, while others persist in landfills or the natural environment for decades.

Glass

- Post-Usage Impact:
  - Glass is 100% recyclable and can be recycled endlessly without loss in quality or purity. However, the recycling process is energy-intensive due to the high melting temperatures required. If not recycled, glass can persist in landfills indefinitely as it does not degrade naturally. In areas without proper recycling infrastructure, glass waste often ends up in landfills.
- Reuse Potential:
  - High. Glass bottles and jars can be cleaned and reused for storage in households or commercial settings.

Cork

- Post-Usage Impact:
  - Natural cork is biodegradable and compostable, making it an environmentally friendly option. It breaks down naturally and does not release harmful chemicals. Synthetic corks, however, are not biodegradable and often end up in landfills.
- Reuse Potential:
  - Moderate. Natural corks can be reused in crafts or home DIY projects.

Cans

- Post-Usage Impact:
  - Aluminum and steel cans are highly recyclable and can be turned into new cans or other products with significant energy savings compared to virgin production. Aluminum recycling saves up to 95% of the energy required to produce new aluminum from raw ore.
- Reuse Potential:
  - Low: Cans are typically single-use but can be repurposed for crafts.

Cardboard

- Post-Usage Impact:
  - Cardboard is biodegradable and widely recyclable. However, contaminated cardboard (e.g., food-soiled pizza boxes) often cannot be recycled and ends up in landfills. When composted or recycled, it breaks down efficiently and returns to the paper production cycle.
- Reuse Potential:
  - High. Cardboard boxes are commonly reused for storage or shipping.

Plastic Pallet Wrap

- Post-Usage Impact:
  - Typically made from low-density polyethylene (LDPE), pallet wrap is technically recyclable but rarely accepted in curbside programmes. Most of it ends up in landfills or incineration facilities. When improperly disposed of, it contributes to plastic pollution in marine and terrestrial ecosystems.
- Reuse Potential:
  - Very low. Designed for single-use, difficult to reuse effectively.

PET Plastic Bottles

- Post-Usage Impact:
  - PET (Polyethylene Terephthalate) bottles are widely recyclable, but global recycling rates remain low. They are a major contributor to plastic pollution, especially in oceans, where they degrade into harmful microplastics over time.
- Reuse Potential:
  - Low to moderate. Bottles can be reused short-term, but repeated use may pose health risks if not cleaned properly.

Bag-in Box

- Post-Usage Impact:
  - This packaging combines cardboard with a plastic bladder, complicating the recycling process. While the outer cardboard box is usually recyclable, the plastic bladder often is not and may require specialist recycling services.
- Reuse Potential:
  - Low. The plastic inner liner is not designed for reuse, though the box may be repurposed.

Polystyrene Protective Inserts

- Post-Usage Impact:
  - Expanded polystyrene (EPS), commonly known as Styrofoam, is not biodegradable and is rarely accepted in recycling programmes. It breaks into small particles that persist in the environment and harm wildlife.
- Reuse Potential:
  - Very low. Difficult to clean and store; not generally reused in households.

Consumer Perception

Do Consumers Care?

Today's consumers expect brands to not only offer quality products but to do the environmental legwork on their behalf. Increasingly, shoppers are choosing brands that align with their personal values, especially around sustainability. A UK-based trial of glass-free formats revealed that 90% of customers were willing to repurchase, highlighting a strong appetite for innovation when it aligns with environmental values.

Sustainability and Shifting Preferences

Environmental awareness is a growing driver of purchasing decisions. While glass bottles remain the dominant format in wine packaging, alternative formats such as bag-in-box (BiB) and cans are gaining popularity, especially among younger, eco-conscious consumers.

The Power of Education and Transparency

Educating consumers on the environmental impact of different packaging options is essential. Influential figures like wine critic Jancis Robinson have begun to include bottle weight in their reviews, helping raise awareness around the carbon footprint of traditional packaging. This kind of thought leadership encourages more informed and responsible purchasing decisions.

Producers can also build trust and engagement by offering transparency through smart packaging. Technologies such as QR codes on labels enable customers to instantly access information about a wine's origin, production practices, sustainability credentials, and tasting notes. This not only empowers consumers but also strengthens their connection with the brand, it also gives them all the information they need without them having to do the legwork.

Trade - Retail and Hospitality

Retailers and hospitality businesses play a vital role in shaping sustainable packaging trends. Increasingly, they are expected to curate product selections that reflect their customers' values, while also ensuring compliance with emerging environmental regulations.

Major retailers such as Waitrose and Whole Foods are exploring regenerative agriculture certifications as part of their broader sustainability goals. Others, like Levy UK + Ireland, have established strong Environmental, Social, and Governance (ESG) criteria for the suppliers they work with. Internationally, Systembolaget (Sweden's state-run alcohol retailer) has long been a leader in demanding low-impact packaging and traceability from producers.

Meanwhile, large-volume retailers such as Tesco are preparing for incoming regulation by shifting focus towards carbon footprint reporting and sustainable packaging commitments. As regulatory pressure increases, aligning with retailer expectations on packaging, traceability, and emissions will become crucial for suppliers.

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Section 2:

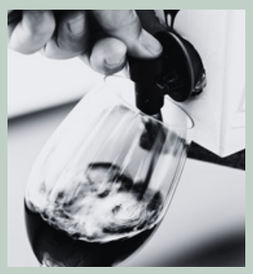
Packaging in Practice: A Guide for Wine Producers

What Packaging Type Brands Are Using

Global Market Share by Packaging Type



Glass Bottles continue to lead the market, accounting for approximately 60% of global wine packaging. However, projections indicate a decline to around 33.8% by 2032 as alternative packaging formats gain popularity.



Bag-in-Box (BiB) packaging has seen significant growth, especially in Europe. In France, BiB represents 44% of supermarket wine sales, and in Sweden, it accounts for about 29% . Globally, BiB holds a 25% market share.



Cans are emerging as a convenient option, particularly among younger consumers. While specific global market share data is limited, cans are gaining popularity in various markets.



Plastic Bottles currently constitute about 15% of the market.

Regional Insights



Europe leads in adopting alternative packaging formats. In France, BiB is prevalent in supermarkets, and in Sweden, it is the most popular packaging format.



North America. In the U.S., BiB accounts for approximately 17.5% of wine sales . Glass bottles dominate but are experiencing a gradual decline in favour of more sustainable options.

Recycled PET (rPET) Bottles

What are they?

Recycled PET (rPET) bottles are an increasingly popular alternative to traditional glass in wine packaging. Made from recycled polyethylene terephthalate, the same plastic used in water and soft drink bottles, rPET wine bottles offer a lightweight, durable, and more sustainable option for producers looking to reduce their environmental impact.



PET bottles at The Wine Society: a quick introduction

A guide to this lower-carbon packaging format, one part of our efforts to reduce carbon emissions and tackle climate change.

thewinesociety.com

The Wine Society has answered some key questions in regards to these bottles including:

Does it affect the taste of the wine?

No – as it's inert, it won't change the flavours of the wine at all. We're introducing rPET bottles only on wines which are made to be drunk young, so we recommend drinking them within 12 months to get them at their best.

Does using PET bottles mean we're producing more plastic?

No – because the bottles we are using are rPET, they're made from 100% recycled PET plastic which means no new PET plastic is manufactured. It's a 'closed loop' system; these bottles made of recycled plastic are then further recycled. The tethered closures (caps) and labels can also be recycled.

Packamama's eco-flat bottles

- 87% lighter – Weighing just 63g, our lightweight bottles significantly reduce carbon footprint and result in direct savings throughout the supply chain
- 40% spatially smaller – Still a full-sized 75cl bottle of wine. A nifty fit in a backpack or fridge, space savings also reduce transport emissions and logistics costs
- Recyclable by design – All components pass through the same recycling stream to ensure our bottles are fully, easily and widely recyclable by 100% of local UK authorities
- Lower carbon footprint – By half, thanks to significant space, weight and energy savings
- Made from 100% recycled PET – Recycled, lightweight and food-grade material that puts pre-existing PET back to good use and limits creation of new plastic
- 18+ months shelf life – Thanks to an advanced barrier technology, with zero impact on taste and quality of the wine



Aluminium Bottles

Vinca's Aluminum Bottles



Vinca Wine has introduced the UK's first full-sized wine bottles made entirely from 100% post-consumer recycled (PCR) aluminium, marking a significant advancement in sustainable wine packaging. Launched on 31 March 2025, these 750ml bottles are available in two organic varieties.

Key Environmental and Practical Benefits:

- Lightweight Design: Each aluminium bottle weighs just 68g, compared to approximately 450g for a standard glass bottle, facilitating easier handling and transportation.
- Reduced Carbon Footprint:
  - Production of aluminium bottles emits five times less CO_2 than glass bottles (0.129 $kgCO_2e$ vs. 1.03 $kgCO_2e$).
  - Overall, the carbon footprint per filled and distributed aluminium bottle is 47% lower than that of its glass counterpart (1.18 $kgCO_2e$ vs. 2.24 $kgCO_2e$).
  - Each bottle saves approximately 1.06 kg of CO_2e, equivalent to the emissions from charging a smartphone 135 times.
- Enhanced Logistics: The sleek shape allows for 40% more bottles per shipping container, reducing transportation emissions and costs.
- Rapid Chilling: Aluminium bottles chill faster than glass, offering convenience for consumers.

vinca
TOGETHER WE CAN.

These innovative bottles are now available in over 300 Tesco stores across the UK, priced at £9 each, reflecting Vinca's commitment to combining premium wine quality with environmental responsibility.

Labels

Everyone needs labels! Not only so people know what they're drinking, who's made it, and all the compliance based information, but also so they can connect with your brand visually, understand your story, and feel confident in the quality of the product they're choosing.... So, what can be done when it comes to the sustainability of labels?



Best Packaging Materials for Carbon Reduction

Typically lower weight label materials that are produced in large volumes – providing production efficiencies. Unfortunately these materials don't often support the brand-identity and consumer-perception requirements of premium brands. Therefore, it's important to communicate the desired look and feel of your labels, along with the request for sustainable materials, allowing your label supplier to guide effectively. Remember, the least sustainable choice is one that isn't fit for purpose.

The Trade-Offs When Switching to More Sustainable Packaging Materials

1. Choice: Your options on colours, textures and technical suitability will likely be reduced.
2. Availability: At times material suppliers launch products, only to find demand is insufficient and they remove the product from their portfolio. You may produce labels one year only to find the material unavailable the next. There is also the on-going challenge of sourcing enough recycled content for the production of a wide range of sustainable materials.
3. Lead Times / Minimum Order Quantity (MOQ): Sustainable materials may carry a higher MOQ or lead time than more standard materials and you should ask your label supplier to advise accordingly.



The Environmental Impact of Changing Packaging Materials

Changing the materials used for labels can have a significant impact on the environmental footprint of a product. By choosing materials that are made with recycled content and/or made from renewable resources (such as plant-based materials), and by using the most appropriate print technology for your project, companies can reduce waste, conserve resources, and lower the carbon footprint of the product. However, it's important to consider how the label interacts with the rest of the packaging and it's intended use (ref: fridge, ice-buckets).

Easy Wins When Aiming to Reduce Environmental Impact of Packaging

- Ensure your label material is FSC Certified (if paper-based).
- Group label production together, where possible. This leads to less overall wastage compared to multiple separate orders (should also save you some money!).
- Consider removing any embellishments (such as hot foil) from back labels.

Closures

Options For Wine Closures



Natural Corks: A renewable and biodegradable option that supports carbon sequestration, as cork oak forests absorb CO_2. Sustainable harvesting ensures minimal environmental disruption.



Synthetic Corks: Typically made from plastic-based materials, though newer versions incorporate recycled or bio-based plastics to reduce reliance on fossil fuels. Some are recyclable, but disposal options vary.



Screw Caps: Made from aluminium, they are lightweight and recyclable, though mining and processing aluminium have a higher initial carbon footprint. Recycling significantly reduces this impact.

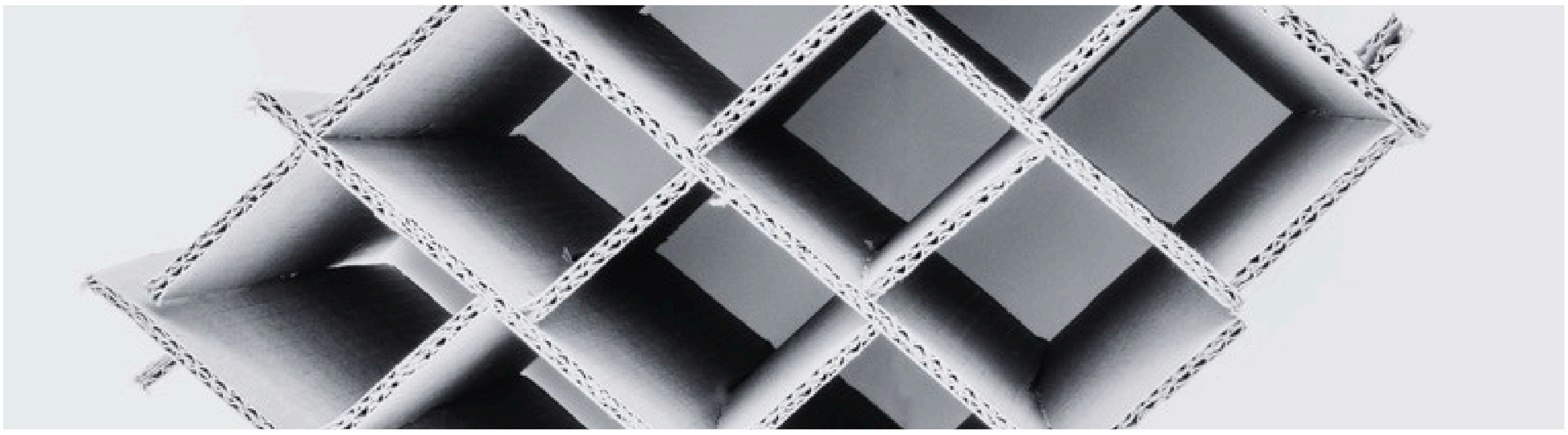


Glass Closures: Fully recyclable and reusable, but heavier than other closures, increasing transport emissions. Best suited for premium, refillable, or closed-loop systems.



Bio-Based Closures: Made from plant-derived materials such as sugarcane, offering a low-carbon, fully recyclable alternative to synthetic corks.

Protective Inserts



When shipping wine, protective inserts are essential. It's important to consider the sustainability of the packaging, which serves various purposes, including: safeguarding labels and branding, preventing breakage, ensuring a polished presentation, and providing temperature control support.

In a later section of this toolkit, you will find examples of WineGB members who are utilising innovative and sustainable materials for transporting their wines, such as Hattingley Valley's use of bio-chips.

WineGB Partner WBC have numerous different protective insert options which we've displayed over the next few pages, all taking the protective need for the inserts into consideration as well as the environmentally friendly-ness of the product.



Protective Inserts – Cardboard

Options from WBC



The elasticated card protective sleeve for bottles is designed to mold to the shape of the items it protects. Its fluted, padded construction provides cushioning for bottles and jars.

- Made from 100% recycled and recyclable card, it offers an eco-friendly packaging solution. These sleeves are ideal for shipping boxes or gift hampers containing glass bottles, ensuring safe transit.

The Honeycomb paper bottle protective sleeve features a flexible hexagonal design that fits wine bottles with diameters up to 100mm, protecting the base. The flat-packed shipping box and thin 25mm tube sleeves are ideal for storage.



- It is made from recyclable and biodegradable materials, offers a sustainable, plastic-free packaging solution, enhancing durability while minimising waste and carbon footprint.



Pulpsafe protective inners are designed to securely hold a single sparkling wine bottle.

- Made from 100% recycled card waste, these eco-friendly packaging components provide excellent shipping protection and are 100% recyclable, compostable, and biodegradable within six months.

The Pulp divider tray is specifically designed for wine distributors, these dividers stack efficiently, saving space in your packing area.



- Made from recycled content and fully recyclable for both trade and consumers, they offer a sustainable packaging solution.

Protective Inserts - Non-Cardboard



The Polysafe insert for bottles in the courier network offers a lightweight yet sturdy design.

- These are reusable, which contributes to environmental sustainability by reducing waste. Additionally, their durability means they have a longer lifespan, further minimsing the environmental impact by decreasing the need for frequent replacements.



The SafeAir Inflatable Bag requires minimal storage space. Crafted from LDPE, these packs become rigid when inflated, providing outstanding shock absorption.

- The airbags are recyclable at your local center, contributing to sustainability by reducing waste and promoting the reuse of materials.



Recycled Plastic Bottle Protective Sleeves feature a padded construction that provides extra cushioning.

- They are made from recycled plastic and offer the same level of protection as older designs. However, they also enhance sustainability since they are 100% recyclable. These sleeves are composed of 96% recycled materials, which contributes to reducing waste.

Pallet Wraps

Pallet wraps are essential in logistics and warehousing for stabilising and securing goods on pallets during storage and transportation. Traditionally, these wraps are made from low-density polyethylene (LDPE), a type of plastic known for its stretchability and durability. However, the environmental impact of LDPE is significant, as it is derived from non-renewable fossil fuels and is challenging to recycle, often ending up in landfills or as environmental pollutants.

Eco-Friendly Alternatives:



Compostable Stretch Film: This innovative product offers a sustainable alternative to conventional plastic stretch films. Made from compostable materials, it is certified for both home and industrial composting, ensuring it breaks down naturally without leaving harmful residues. Terra Stretch maintains comparable performance to traditional films, featuring excellent stretch capabilities, self-adhesion without glue, and high durability. It is suitable for various applications, including pallet wrapping, bundling, and protecting products in transit .

Reusable Pallet Bands: These oversized rubber bands serve as a reusable solution for securing palletised items. They are easy to apply and remove, requiring no additional equipment, and are ideal for internal warehouse movements. Pallet bands allow for full visibility of labels or barcodes and facilitate air circulation around the pallet, which is beneficial in temperature-controlled environments. By replacing single-use plastic wraps with reusable bands, companies can reduce waste and improve operational efficiency.



Choosing a Packaging Partner

Select packaging partners with experience in wine packaging, strong quality control (ISO9001, BRC), and a collaborative approach. Ensure they have both conventional and digital print capabilities for efficiency.

Energy Source Impact: Prefer suppliers with renewable energy sources, but not at the cost of quality and expertise. Printing energy use is minor compared to glass production but varies by equipment efficiency.

Assessing Environmental Commitment: Look for certified improvement records, a published Environmental Management System, and clear CSR policies.

Key Questions for Providers:

- Can they recommend sustainable materials?
- Do they offer a sustainability audit?
- What are their certifications, recent improvements, and goals?
- How do they ensure labels suit the product?

Certifications & Compliance: Trusted certifications include ISO 14001, B-Corp, EcoVadis, Carbon Disclosure Project, Carbon Trust, and FSC (for responsible forestry).

Supply Chain Transparency: UK suppliers should provide full transparency to verify sustainability claims.

WineGB Packaging Partners Top Tips

Autajon Labels Royston

Autajon Labels Royston is a UK-based manufacturer of premium self-adhesive labels for sectors like cosmetics, pharmaceuticals, and food. It has a strong commitment to quality, innovation, and sustainability.

WBC

WBC is the UK's leading wholesale supplier of gift, wine, and transit packaging, serving the drinks, deli, and hamper trade. With over 1,600 products, including bespoke and white-label options.

This section is full of useful advice from some of WineGB's trusted partners and patrons, offering practical insights, expert tips, and innovative solutions to help producers enhance sustainability, efficiency, and quality across their operations.

Autajon Labels Royston



The odds are that your end-customer isn't peeling labels off the bottles before they go into the recycling stream, therefore the labels are most likely going to be incinerated when the bottle is (hopefully!) recycled. For this reason it's generally more important to focus on recycled content, rather than the recyclability, of label materials. Label materials with recycled content help support a reduction in the use of virgin materials and a reduction of waste going to landfill.

Always ask for the technical specification from the material supplier, don't rely on the claims of the label supplier. These specifications, if from a reputable material supplier, will clearly show the relevant details of the material such a FSC certification and recycled content within the material. There are label suppliers claiming or insinuating the use of materials that are made from 100% waste product, when in reality it is only 5%.

Conventional printing (typically flexographic in the UK label landscape), is best suited to medium to long runs. In label terms, this is typically 30,000+ but is highly design/material dependent. Conventional printing relies on a bespoke printing plate and individual print unit and curing for each colour, resulting in an initial set-up that is quite involved. Benefits to conventional printing include in-line printing and embellishment, often resulting in better registration between print and embellishment and higher speeds.

Digital printing avoids the need for printing plates and instead prints directly onto the paper. Digital printing is typically more sustainable for shorter runs as it does not use printing plates and requires less paper for machine set up. However, varnishing, embellishments and die-cutting are typically performed on a secondary piece of equipment.

What aspect of packaging has the highest impact (other than glass?) From a label perspective, definitely the choice of label material used. Look for a supplier who can provide you with Life Cycle Assessments between different materials to support your decision. Also, consider whether embellishments such as hot foil and tactile screen are needed (particularly on back labels).

WBC

WBC

www.wbc.co.uk

020 7737 4040

As innovators in the packaging industry, we know that, at the end of the day, it's all about making choices that drive change. And no matter what size your business is, even the smallest commitment to investing in sustainable options will play a part in getting us that much closer to achieving a minimal carbon footprint.

From our perspective, onboarding packaging, gifting and retail display solutions that fall within sustainable parameters is a priority. In fact, from recycled cotton to FSC-certified materials, azo-free inks and minimal plastic usage, we're doing everything possible to supply innovative alternatives that make the grade.

To safeguard the integrity of our clients, our hero products are flagged with an eco-plus sticker, which indicates that they are made from at least 80% recycled material and are 100% recyclable and/or biodegradable.

WINE GB

SUSTAINABLE WINES OF GREAT BRITAIN

wbc

WBC's key considerations for finding the right product for you.

WBC Products

Aspects you need to consider

Our Transit Packaging

	Re-Packaging	Budget	Budget +	Mailsafe & Honeycomb	Pulpsafe	Polysafe	Safe Air
£ COST	1	1 2	1 2 3	1 2 3 4	1 2 3 4	1 2 3 4 5	1 2 3 4
PROTECTION	●	●●	●●●	●●●●	●●●●●	●●●●●	●●●●●
SPEED	3	3	4	4	3	2	5
AIR-FREIGHT	✗	✗	✗	✗	✓	✓	✗
STORAGE	═	═	≡	═	═	≡	═
RECYCLABLE	✓ 100%	✓ 100%	✓ 100%	✓ 100%	✓ 100%	✓ OUTER ONLY	✓ OUTER ONLY
UK MADE IN UK	✓	✓	✓	✓	✓	✓	✗
INSULATION	0	1	1	2	3	5	4
RECYCLED CONTENT	✓ 70%	✓ 70%	✓ 70%	✓ 70%	✓ 100%	✓ 30%	✓ 30%
BIODEGRADEABLE COMPOSTABLE	✓ 100%	✓ 100%	✓ 100%	✓ 100%	✓ 100%	✓ OUTER ONLY	✓ OUTER ONLY

Other key packaging characteristics

Sustainability credentials

Checklist

What	How	Tick
Know your impact	Use a carbon calculator (such as the free to use WineGB carbon calculator) to work out your CO2 emissions. Increasingly removals (sequestration) will also be important.	
Set targets	Use this data to set environmental impact reduction targets.	
Choose your suppliers	Research what works for you and choose a supplier who aligns with your sustainability goals.	
Track your changes	Keep a track of what changes you make to your packaging as you go so you are able to display the changes you've made and track the reduction in environmental impact.	
Educate your stakeholders and consumers	Inform them of why you're making these choices and the impact it's having, and the impact their decision to choose your brand is having on their own environmental footprint.	
Implement a policy to keep the good work going	To ensure that the hard work you and your team have put into making meaningful change to the impact of your packaging continues, take our policy or create your own to ensure it stays a priority for the business.	
Create a routine of reporting, tracking KPIs and reassessing	Once you've implemented changes, set KPIs which will indicate the success of your packaging switches and continue to try new things to see what works best for your business.	
Keep up-to-date with new technologies within packaging	Ensure you are keeping up-to-date with studies on new packaging technologies and research studies to ensure you're aware of what best practice is.	

Case Studies

Case studies are powerful tools for learning about environmentally sustainable packaging in wine because they offer real-world context, showing how specific decisions play out in practice.

They help illustrate the trade-offs, challenges, and benefits of different packaging materials like glass, cans, or alternative formats – based on actual results from producers.

By examining what has worked (or not) for others, wine businesses can make more informed, practical, and relevant decisions tailored to their own operations.

Case studies also bring credibility by showcasing evidence-based outcomes rather than theoretical assumptions.

Next, you'll see a series of case studies from WineGB Members, offering firsthand perspectives of sustainable packaging choices and the outcomes of their decisions.

Mallard Point



Mallard Point has introduced a reusable aluminium bottle for both wine and spirits, aiming to reduce environmental impact. Unlike traditional glass bottles, which are often discarded after a single use, the aluminium bottle can be returned, cleaned, and reused multiple times, lowering energy consumption and carbon emissions.

Lightweight, durable, and effective at temperature retention, the bottle also features a reusable swing-top closure that preserves the fizz in its Pét-Nat sparkling wine.

To encourage returns, the box the bottle comes in can be turned inside out, with a prepaid postage label and a discount voucher for future purchases.

This innovative approach not only reduces waste but also incentivises customers to participate in a more sustainable packaging cycle. Read more about it here.

Thirsty Birds



Thirsty Birds is redefining wine packaging by replacing single-use glass with eco-friendly pouches and kegs. Initially driven by cost concerns, they soon realised the switch also cut carbon emissions – glass production accounts for nearly half of a wine bottle's environmental impact.

Their wine pouches are lightweight, reduce transport emissions, and keep wine fresher for longer. Kegs, meanwhile, create a true circular economy, reducing waste and storage costs while offering wine on tap.

With EPR regulations set to push the industry towards sustainability, Thirsty Birds is leading the charge. By making premium wines more accessible and affordable, they're breaking industry barriers while protecting the planet.

Royal Agricultural University

Cotswold Hills, a wine brand developed by the Royal Agricultural University (RAU) in Cirencester, represents an inspiring example of how sustainability, enterprise, and education can come together to create meaningful change within the English wine industry.

Launched in 2016 as a social enterprise, Cotswold Hills is based at a six-acre vineyard in Down Ampney, Gloucestershire. Originally planted by the Co-Op, the site includes four grape varietals: Ortega, Seyval Blanc, Chardonnay and Bacchus.
With support from RAU students, the university produces a range of white and rosé wines, with profits reinvested into its enterprise programme to support the next generation of entrepreneurs.

From vine to shelf, students are actively involved in all aspects of the business – and that includes sustainable packaging innovation. Sustainability is a core value at the RAU, and in 2017, a cohort of second-year Business students were challenged to develop a packaging solution that reduced environmental impact and allowed for wine service in settings where glass was unsuitable.



Their solution? A 250ml slimline aluminium can – carbonated for added consumer appeal. Launched in 2018, the fizzy white wine cans provided a portable, lightweight and recyclable option, ideal for festivals and events. Although early adoption was slow, particularly among traditional retailers due to a shorter shelf life, the format has since gained traction. To date, over 32,000 cans have been sold, and the product is now a staple of the Cotswold Hills range, with loyal retail partners including Midcounties Co-Op.

Cotswold Hills

In 2022, the Cotswold Hills team took their commitment to lower-carbon packaging a step further, collaborating with Packamama to introduce the UK's first eco-flat recycled plastic wine bottle. The flat bottle, made entirely from recycled PET and fully recyclable, significantly reduces the product's carbon footprint due to its lower weight and increased transport efficiency. The project was led by final-year Applied Farm Management student Hugo Sain-Ley-Berry-Gray, who reflected:

"As students of food and agriculture, we're conscious of the industry's carbon footprint. Glass bottles represent a significant proportion of wine's emissions. Switching to eco-flat bottles is a step towards solving that problem and aligns with our sustainability goals."

This innovation not only positioned Cotswold Hills as the first UK vineyard to trial the Packamama format, but also earned the brand a Bronze Award in the 2023 Global Wine Masters for Wine Design and Packaging.

In 2024, the team is continuing to trial alternatives – this time launching their latest white blend in a Frugalpac paperboard bottle. Following consumer testing, students will conduct a comprehensive review of both the Packamama and Frugalpac options to evaluate long-term viability and consumer acceptance.

Cotswold Hills demonstrates the power of student-led enterprise to drive practical, forward-thinking solutions for the future of the wine industry.



Langham Wine Estate

Langham Wine Estate has developed English Sparkling wine in kegs, making them one of the first producers in the UK to explore this format. The idea was sparked after noticing a local bar serving frizzante Prosecco sparkling on tap.

Rather than the Charmat method, Langham experimented with a Col Fondo-style second fermentation directly in the keg. They secured a small batch of kegs from a distributor and trialled the process using base wine from their 2020 vintage. The resulting wine was lightly sparkling, with roughly a third of the pressure of typical English sparkling. The format has found success in natural wine bars in London, where the style and sustainability is aligned with their customer base. Langham started with just 80 kegs, but demand has since grown.

Head Wine Winemaker Tommy Grimshaw said: “Using KeyKegs has been a fun journey of discovery for me. Working with the kegs is really easy, although the initial trial had its risks. KeyKeg initially said they weren’t aware of people doing a second ferment in their kegs and advised against it. Nevertheless, we gave it a go, taking some wine with its lees that had recently finished primary ferment with indigenous yeast and added a small amount of sugar to trigger a second ferment. Filling the kegs is simple and then after a few weeks we had a two bar, cloudy sparkling wine that was ready to pour from tap. The most challenging part about this project was finding a home for the kegs. KeyKegs are widely used by beer producers and many top wine producers are now making waves with this format. The combination of a new format for wine, along with a style that is new to the general consumer meant that it was a slow burn to begin with, but we’re really gaining traction with it now. It’s important to be creative in winemaking and the packaging we use can be part of that.”

Hattingley Valley

Hattingley Valley sets a strong example in sustainable packaging by using Eco Biofil loose fill chips – an eco-friendly alternative to traditional polystyrene peanuts. Though they look similar, these chips are made from renewable resources and are 100% biodegradable. They dissolve in water or can be composted at home, making disposal simple and sustainable.



Designed to cushion products efficiently, the chips are lightweight, odour-free, and five times more antistatic than polystyrene. They conform to EN 13432, the EU standard for compostable packaging, ensuring they meet rigorous environmental criteria.



Uncork, Unbox, Upcycle: How to Recycle & Reimagine your Hattingley Packaging

So, you've placed an order with us? Well, whether it's your first time or you're a returning Hattingley Valley enthusiast, we want to extend our heartfelt gratitude for supporting us on our journey! Your order plays a...

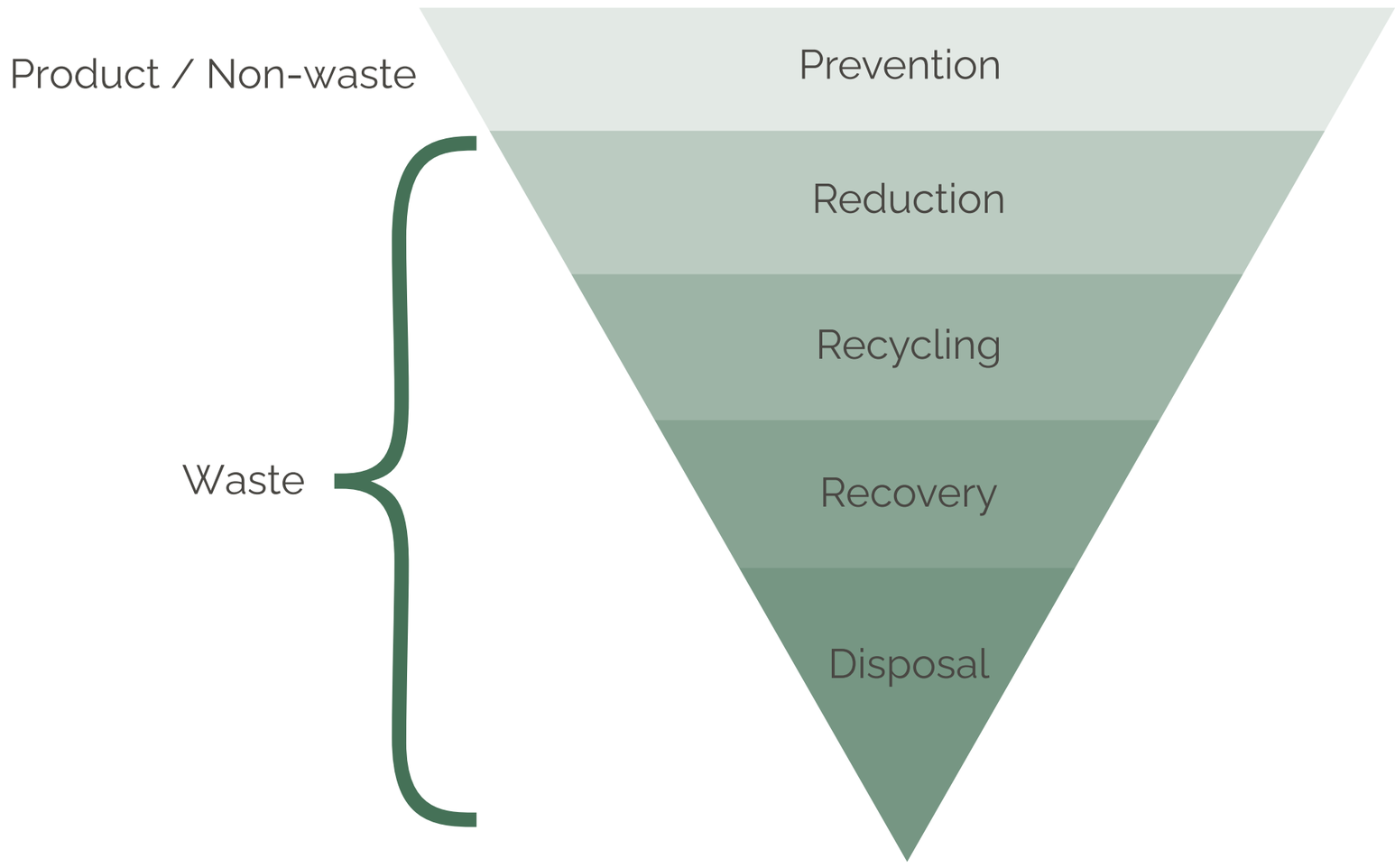
Hattingley Valley Wines / May 31, 2024

HATTINGLEY VALLEY

Hattingley Valley not only have some great environmentally friendly solutions in their packaging but also offer suggestions and ideas with what to do with their packaging once you've used it.

Sustainability Best Practice

Key Features



To consider best practice for the sustainability of your packaging, it is crucial to consider these key features. Prioritising reduction first, followed by reuse and recycling, aligns with the waste hierarchy and supports a more sustainable wine packaging system.

Reusability

- Design packaging to be refillable or returnable, supporting circular models like bottle return schemes or keg systems.
- Increases lifecycle of materials and significantly cuts waste generation.

Recycled Content

- Use packaging made from non-virgin materials, such as recycled glass, rPET (recycled plastic), or FSC-certified recycled cardboard.
- Reduces resource extraction and lowers the overall carbon footprint of packaging production.

Recyclability

- Ensure all packaging components are easily recyclable in standard domestic or commercial waste systems.
- Avoid composite materials that are difficult to separate or process.

Reduction of Materials

- Lightweight packaging (e.g. lightweight glass or paper bottles) reduces emissions from production and transport.
- Use minimal, purposeful packaging – no unnecessary foils, inks, or plastics.

Biodegradability & Composability

- Where recyclability is limited, consider biodegradable or compostable alternatives, particularly for protective packaging (e.g., pulp trays, biodegradable wraps).

Supply Chain & Transport Efficiency

- Choose packaging that is efficient to ship and stack, reducing emissions from transport and storage.
- Consider flat formats or materials that reduce bulk during logistics.

Responsible Sourcing

- Use certified materials (e.g., FSC, PEFC, Carbon Trust) to ensure ethical and sustainable sourcing of packaging inputs.

Consumer Experience & Education

- Clearly label packaging with recycling instructions or sustainability credentials to support consumer action.
- Build awareness around reuse or return schemes for greater environmental impact.

Challenges and Considerations

Packaging Must Be Fit for Purpose

At the heart of any packaging decision lies a simple truth: packaging must protect the product. If the wine is spoiled, damaged, or perceived as poor quality, all the energy, resources, and emissions involved in its production are effectively wasted. Sustainability cannot come at the expense of functionality.

Challenges and Technical Considerations

While alternative materials offer environmental benefits, they must still meet the technical demands of wine preservation. Key concerns include:

- Oxygen ingress, which can cause oxidation and spoilage, is more prevalent in non-glass formats such as PET bottles and bag-in-box (BiB), potentially reducing shelf life.
- The chosen packaging must also preserve the wine's flavour and integrity throughout storage, transport, and use – especially for premium or age-worthy wines.

Consumer Perception and Acceptance

Despite growing environmental awareness, consumer perceptions still pose a hurdle:

- Many associate glass bottles and corks with tradition and quality, while viewing cans or BiB as less premium – even when the wine inside is excellent.
- Efforts to shift perceptions must go hand in hand with education and storytelling.

Infrastructure and Recycling Realities

Sustainability claims also depend on local recycling infrastructure. Materials like PET or composite pouches may be technically recyclable but are often not accepted curbside, leading to inconsistent disposal outcomes and consumer confusion. A packaging format's true environmental impact must be assessed in context – not just by its design, but by what happens to it after use.

Aluminum Cans vs. Glass

Material	Energy Required for Recycling (vs Virgin Material)	Energy Savings	Quality After Recycling	Recycling Rate (Europe)	Energy Required for Production (kWh)	Global Recycling Rate
Glass	50% less energy	30% less energy (Moderate)	Can lose quality	80%	1.09 (for glass bottle)	Less than 35%
Aluminum	95% less energy	95% less energy	No loss in quality	73%	2.07 (from bauxite)	76% efficiency rate

Green Match

The debate between cans and glass for wine production often centers around environmental impact, particularly in terms of energy usage and carbon emissions. In this context, aluminum cans have a significant advantage over glass in terms of energy efficiency and emissions savings.

Recycling aluminum is much more energy-efficient than glass. For example:

- Recycling one aluminum can saves enough energy to boil a kettle or power a 100-watt lightbulb for 4 hours.
- Producing glass takes much more energy. Recycling one ton of glass saves enough energy to power a 2-person household for a week.
- Recycling one ton of aluminum can save energy equivalent to the carbon emissions from driving a car for 4.3 miles.

Export Considerations

Key Packaging Considerations for Wine Export

Palletised Shipping & Protective Materials

- Wine is typically exported by pallet, requiring secure packaging to prevent damage.
- Plastic wrap is commonly used, but sustainable alternatives (e.g., biodegradable stretch films) should be considered.
- Some producers use innovative protective materials, such as dissolvable packing peanuts (e.g., Hattingley's Eco Biofil loose fill chips – you can add them to your compost and watch them disappear). A box-within-a-box approach provides extra protection but increases material use.

Transport Mode & Carbon Impact

- Air miles have the biggest environmental impact, making transport choice critical.
- Wine can be exported via land, sea, or air, with sea freight offering the lowest carbon footprint.
- Bulk shipping (wine in larger containers) for bottling at destination can reduce emissions compared to shipping bottled wine.

Packaging Regulations & Recyclability

- Most wine export packaging is recyclable, but biodegradable options are preferred due to varying international recycling regulations.
- Some markets have specific packaging disposal laws, requiring compliance with local sustainability standards.

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Section 3:

Compliance and Policy

Compliance and the Law

Use this table to see what you need to know and do in terms of legal compliance and your packaging in the UK. The pages beyond this deep dive each section.

Topic	What You Need to Know	What You Need to Do
Packaging Legislation	UK's Extended Producer Responsibility (EPR) affects how packaging is labelled, reported, and disposed of.	Stay up to date with regulations; ensure traceable and recyclable packaging.
Planning & Environment	Local planning rules apply, especially in protected areas (AONBs, conservation areas).	Apply for necessary permissions for new buildings or changes; assess impact on biodiversity and water.
Health, Safety & Licensing	Regulations cover hygiene, safety, alcohol duty, and food laws.	Ensure facilities meet health and safety laws, comply with alcohol and food standards.
Labelling Requirements	Mandatory elements include: product type, provenance, alcohol %, allergens, bottler details, and volume.	Include all legal info on the label; consult FSA guidelines, especially for allergen declaration. Check Defra requirements.
Digital Labelling & QR Codes	Emerging trend: QR codes linking to sustainability info, provenance, and recycling guidance.	Consider adding QR codes to labels to future-proof and enhance transparency.
Best Practice Labelling (Optional)	Suggested by Portman Group: alcohol units, pregnancy warning, Drinkaware reference, low-risk drinking guidelines.	Include these elements to support responsible drinking (note Drinkaware logo requires a paid license).
Closures	Post-Brexit, the UK allows flexible closure choices (no more foil cap/stoppers mandate).	Use closures that best suit product and brand, no longer need specific EU sparkling wine closures.
Bottle & Serving Volumes	New approved sizes: Still wine can be sold in 200ml and 568ml; sparkling in 500ml and 568ml.	Offer correct volumes; 125ml must be available in venues for responsible drinking.
Exports	Requires compliant bottle materials, label info, and importer details. Certifications like VI-1 may be needed for some countries.	Use standard 750ml bottles; include UK importer/FBO details on label; follow ISPM-15 for wood packaging; check destination country requirements.



Before making decisions around sustainable packaging, UK wine producers must first ensure full compliance with all relevant legislation and regulatory frameworks. Legal compliance is not only essential for protecting your business but also plays a critical role in upholding public health standards and supporting national and local environmental objectives.

Stay Updated on Packaging Legislation

Packaging laws are evolving, especially in the context of the UK's Extended Producer Responsibility (EPR) scheme and related waste reduction initiatives. These rules affect how packaging is labelled, reported, and disposed of, with increasing accountability placed on producers and brands.

If your wine is being sold through retailers, remember that they too are subject to regulatory obligations – such as reporting the materials and recyclability of packaging they sell. The choices you make upstream may directly impact their compliance, so maintaining clear communication and documentation is key.

Local Planning and Environmental Regulations

Your geographical location can also introduce additional legal layers. For example:

- Areas of Outstanding Natural Beauty (AONBs) or protected landscapes may impose stricter planning controls on any development or production-related infrastructure (e.g. signage, access roads, processing buildings).
- If you're near protected water bodies or designated conservation areas, you may need to consider the impact of operations – including wastewater management and runoff – from a biodiversity and water quality standpoint.
- Vineyards and wineries located near habitats for protected species (e.g. bats, great crested newts, or specific birdlife) must also ensure compliance with UK wildlife protection laws.

Production Legalities and Permissions

Before any new production-related activity begins, you should assess whether you need to apply for planning permission – especially if you're building, converting, or expanding facilities. Local planning authorities may assess proposals based on factors such as environmental impact, traffic, waste management, and aesthetics.

In addition, ensure you comply with:

- Health and safety regulations
- Food hygiene standards
- Alcohol licensing laws (including duty stamps and HMRC excise regulations)
- Labeling regulations (especially post-Brexit rules for country-of-origin and allergen labelling)

Labels

In the UK, the Food Standards Agency (FSA) outlines specific labelling requirements for both still and sparkling wines to ensure compliance and inform consumers accurately. Key elements include:

Mandatory Information:

- Product Category: The term 'Wine' must be displayed on the label for wines without geographical designation, unless the provenance descriptor already includes the term 'wine'.

- Provenance: Wines without geographical designation can indicate origin using phrases like 'Wine of England (or Wales)', 'Product of England', or 'Produced in England'. For Quality, Regional, and sparkling wines, similar formats should be used.

- Alcoholic Strength: All alcoholic beverages above 1.2% ABV must clearly state their alcoholic strength on the label, typically formatted as 'X% vol' or 'alc X% vol'.

- Allergen Declaration: If the wine contains allergens such as sulphur dioxide exceeding 10 mg/litre, or if fined with milk or egg products detectable above 0.25 mg/litre, the label must state 'contains' followed by the specific allergen (e.g., 'contains sulphites').

- Bottler Details: The label must include the name and address of the bottler, ensuring traceability.

- Nominal Volume: The exact volume of wine in the container must be specified.

- Country of Origin: The label should clearly indicate the wine's country of origin.

Additional Considerations:

- Allergen Labelling: Wines containing sulphur dioxide above 10 mg/litre or fined with milk or egg products (detectable above 0.25 mg/litre) must include an allergen statement on the label.

- Units of Alcohol and Health Warnings: While not mandatory, including information on units of alcohol and health warnings is recommended. Details can be found on the Portman Group website.

- Imported Wines: Producers outside the UK should consult their UK importers to ensure labels meet all necessary requirements.

- For comprehensive guidance, refer to the FSA's detailed documents on the UK Quality Wine Schemes for both still and sparkling wines.

- Adhering to these guidelines ensures that wine labels in the UK are compliant, informative, and transparent for consumers.

Labelling Best Practice: The Portman Group and Drinkaware

The Portman Group is an organisation dedicated to promoting responsible drinking and best practices within the alcohol industry, provides additional voluntary recommendations to enhance consumer awareness and promote responsible consumption. While these recommendations are not legally mandated, they represent industry best practices.

1. Unit Alcohol Content:

Clearly stating the number of alcohol units per container is advised. This information helps consumers monitor their alcohol intake. For multi-serve containers, indicating units per typical serving is also recommended. For example, a standard serving for wine could be 125ml.



2. Pregnancy Warning:

Including a pregnancy warning message or symbol on labels is recommended to inform consumers about the risks of alcohol consumption during pregnancy.



3. Drinkaware Reference:

Incorporating a reference to the Drinkaware website (e.g., "For more information, visit drinkaware.co.uk") directs consumers to resources on responsible drinking.



4. Chief Medical Officers' (CMO) Low Risk Drinking Guidelines:

Displaying the CMO's 2016 guidelines on low-risk drinking provides consumers with information to make informed choices about alcohol consumption.



The Drinkware logo has a cost of use that varies for organisational turnover – you cannot use it without paying for a license. Click here for more information.

Portman Group
Alcohol
Responsibility + Marketing Regulation

Digital Labelling & QR Codes

Digital labelling (particularly through QR codes) enables enhancing transparency, supporting sustainability goals, and ensuring compliance with evolving regulations.

- Regulatory Compliance
  - EU Regulations: As of December 2023, EU law mandates that wines display a QR code or web address linking to detailed information on ingredients and nutritional values. This approach allows producers to provide comprehensive data without overcrowding the physical label. (Not relevant to domestic UK sales – yet!).
  - GS1 Digital Link Standard: The GS1 Digital Link enables QR codes to carry extensive product information, including origin, ingredients, and sustainability data, facilitating compliance with international standards and future-proofing labelling practices.
- Sustainability & Consumer Engagement
  - Environmental Impact: QR codes reduce the need for extensive physical labelling, thereby decreasing paper usage and allowing for dynamic updates without reprinting, contributing to lower carbon footprints.
  - Transparency: Producers are adopting QR codes to share detailed information about their wines, including nutritional content, ingredient sourcing, and packaging materials, fostering consumer trust and informed choices.
- Future-Proofing & Innovation
  - Interactive Experiences: QR codes can link to multimedia content such as virtual vineyard tours, tasting notes, and pairing suggestions, enhancing the consumer experience and brand storytelling.
  - Dynamic Content Delivery: Advanced QR code solutions allow for content customisation based on user location, ensuring compliance with regional regulations while providing tailored marketing content.

Closures

In the United Kingdom, regulations concerning wine bottle closures have undergone significant changes, particularly following Brexit. Historically, certain EU regulations mandated specific closures for sparkling wines, such as the use of foil caps and mushroom-shaped stoppers. However, as of 2024, the UK Government has reformed these rules to reduce industry burdens and promote innovation.

Key Changes:

1. Removal of Specific Closure Requirements: The UK has eliminated the mandate for certain sparkling wines to use foil caps and mushroom-shaped stoppers. This change allows producers greater flexibility in choosing closures that suit their products and branding.
2. Encouragement of Innovation: By scrapping these outdated EU regulations, the UK aims to encourage investment and growth within its wine industry, enabling producers to explore alternative closure options without being constrained by previous mandates.







Volume

In the United Kingdom, regulations governing wine volumes pertain to both prepackaged wine containers and serving sises in licensed premises.

As of January 2024, the UK expanded the permissible bottle sizes for both still and sparkling wines:



Still Wine: Previously restricted to specific volumes, still wine can now be sold in 200ml and 568ml (imperial pint) bottles, in addition to existing sizes.



Sparkling Wine: Similarly, sparkling wine is now permitted in 500ml and 568ml bottles, alongside traditional volumes.

Licensed establishments must adhere to specific measures when serving wine by the glass:



Still Wine: Must be offered in 125ml and 175ml servings. Larger sizes, such as 250ml, are permissible, but the 125ml option must always be available to promote responsible drinking.



Fortified Wine (e.g., Port, Sherry): Should be served in 50ml or 70ml measures, or multiples thereof.

Carafe Measures: 250ml, 500ml, 750ml, or 1 litre.

Export

In the United Kingdom, wine export packaging is subject to specific regulations to ensure product quality, safety, and compliance with international standards. Key considerations include:

1. Packaging Materials and Sizes:

- Bottle Specifications
  - Wine bottles must be food-safe and typically conform to standard sizes, such as 750ml, to align with international market expectations.

- Wooden Packaging
  - Any wooden packaging or pallets used must be heat-treated and stamped in compliance with ISPM 15 regulations to meet plant health requirements.

2. Labelling Requirements:

- Mandatory Information
  - Labels must display essential details, including nominal volume, alcoholic strength, bottler information, country of origin, allergenic ingredients, and the wine type, all within one field of vision.

- Importer Details
  - From 1 January 2024, wine labels must include the name and address of a UK-based Food Business Operator (FBO) or importer. Wine labelled before this date does not require relabelling if it was already in the supply chain or placed on the market.

3. Documentation and Certifications:

- Export Certification
    - Certain export destinations may require specific certifications, such as the EU VI-1 form. However, there are exemptions, including non-commercial consignments up to 30 litres, trade fair samples in labelled containers up to 2 litres with single-use stoppers, and shipments for scientific purposes up to 100 litres.

4. Regulatory Compliance:

- Quality Standards
    - Producers must adhere to regulations concerning alcoholic strength, acidity levels, permitted additives, and other quality parameters to ensure compliance with both UK and international standards.

For more information on export requirements, see here.



Government Policy

Extended Producer Responsibility (EPR)

What is EPR?

Extended Producer Responsibility (EPR) is an environmental policy approach that assigns producers the responsibility for the entire lifecycle of their products, particularly for their take-back, recycling, and final disposal. This strategy is intended to incentivise manufacturers to design environmentally friendly products by internalising the costs associated with product end-of-life management.



If you have any questions, contact: packaging@defra.gov.uk

Why is the Government introducing EPR?

The Government have stated:

"The impact assessment estimated the pEPR producer fees would generate over £1 billion annually to support local authority collection and disposal services, including recycling services. We expect Greenhouse Gas Emissions savings of approximately 0.8 million tonnes of carbon dioxide equivalent over the 10-year appraisal period."

How is it Going to Affect the Glass Industry?

The Government has stated:

"We are encouraging the glass industry to seek to reduce the cost impacts of pEPR through a transition to reuse and refill, something that used to be commonplace in the UK and continues to be in many other countries. The use of reusable/refillable packaging is encouraged under pEPR, as producers are only required to report and pay disposal cost fees for household packaging the first time it is placed on the market, and can then offset these fees when they recycle this packaging at the end of its life, thereby avoiding the vast majority of pEPR fees."

How does it define packaging?

Packaging encompasses any material used to contain, protect, handle, deliver, or present goods. This includes items designed to be filled at the point of sale, such as coffee cups. Packaging is categorised into three types:

- Primary Packaging: Directly contains the product (e.g., a bottle holding a beverage).
- Secondary Packaging: Groups multiple primary packages together (e.g., a cardboard box containing several bottles).
- Tertiary Packaging: Used for bulk handling and transportation (e.g., pallets and shrink wrap).

Who does it apply to?

EPR regulations apply to UK businesses that import or supply packaging and meet all of the following criteria:

- You are an individual business, subsidiary, or group (excluding charities).
- Your annual turnover is £1 million or more (based on your latest accounts up to 7 April).
- You were responsible for importing or supplying more than 25 tonnes of packaging to the UK market in the previous calendar year.
- You carry out any packaging activities (e.g., manufacturing, importing, supplying, or selling packaging).

What do you need to do?

If you meet the above criteria, you are considered an obligated producer and must take the following steps:

Determine Your Business Size

- Identify whether your company qualifies as large or small under EPR regulations.

Collect and Report Packaging Data

- For 2024, you must report packaging data based on 2023 figures, but no fees will be due (fees have been deferred for one year).
- From 2025, you must pay fees based on 2024 data.

Record and Report Data Every Six Months

- Regular reporting is mandatory to ensure compliance.

Pay Applicable Fees

  - The fee structure is being finalised and will be published in due course.

Next Steps

1. Assess whether your business is obligated under EPR.
2. Start tracking packaging data now to prepare for reporting requirements.
3. Stay on top of fee structures and reporting deadlines.
4. Keep up-to-date with EPR updates on the Government Website.

Deposit Return Scheme

The UK's Deposit Return Scheme (DRS), initially announced in 2018, has experienced several delays, with the latest implementation date set for October 2027. The scheme proposes a 20p deposit on single-use drink containers, refunded upon return, aiming to boost recycling rates that have stagnated at 44% over the past decade, falling short of the 65% target by 2035.

The inclusion of glass bottles in the DRS has been a contentious issue. In Scotland, the exclusion of glass led to the abandonment of their DRS, resulting in legal action from waste management firm Biffa, which is suing the Scottish Government for £160 million over the failed scheme. Conversely, Wales plans to include glass bottles in its DRS, highlighting regional variations in approach.

The Welsh Government has announced plans to implement its own Deposit Return Scheme (DRS) to encourage recycling, distinct from the rest of the UK. A key feature of Wales' DRS is the inclusion of glass bottles, contrasting with the schemes in England and Northern Ireland, which currently exclude glass containers. This decision underscores Wales' commitment to comprehensive recycling initiatives and reflects its higher recycling rates compared to other UK nations.

To inform the UK's DRS development, officials are studying successful European models, such as those in the Netherlands, Denmark, Germany, and Sweden, where recycling rates exceed 90%. These systems typically feature centralised operators and appropriate fee structures, contributing to their effectiveness.

Recycling and Waste Regulations



As of 31 March 2025, all workplaces in England must comply with new 'Simpler Recycling rules' to enhance waste management and recycling rates. Key requirements include:

- Mandatory Waste Separation: Businesses must sort waste into bins for recyclables, food waste, and non-recyclable waste.
- Proper Waste Disposal Contracts: Collaborate with licensed waste carriers for legal waste collection and processing.
- Retention of Waste Records: Maintain records of waste management activities for regulatory compliance.
- Enforcement and Penalties: The Environment Agency will issue compliance notices, and persistent offenders may face fines or legal action.
- Transition Period for Small Businesses: Workplaces with fewer than 10 full-time employees have until 31 March 2027 to comply.

These regulations aim for consistency with household recycling rules across England and are relevant for numerous businesses types including hospitality and offices.

Schemes and Support Materials

Sustainable Wine Roundtable
Bottle Weight Accord

The Bottle Weight Accord, launched by the Sustainable Wine Roundtable (SWR) in November 2023, aims to reduce the carbon footprint of wine packaging by focusing on glass bottle weight.

Key Objectives

- Lower average weight of 750ml still wine bottles to below 420 grams by 2026.
- Decrease carbon emissions, as glass bottles contribute about 50% to a wine's carbon footprint.
- Challenge the misconception that heavier bottles indicate higher quality.

Progress and Participation

The Accord grew from eight to over 20 participants in a year, collectively producing nearly 2 billion bottles annually, representing 5% of global wine production. Participants include notable retailers like Systembolaget, Whole Foods Market, and Tesco.

Future Directions:

SWR plans to further reduce bottle weight, explore lightweight options for sparkling wines, alternative packaging, and bulk shipping methods to enhance sustainability in wine packaging.

Porto Protocol Guide

The Porto Protocol brought out their 'Unpackaging Wine' guide which is a massive, nearly 300 page, booklet outlining the environmental impact of wine packaging globally. It looks at water footprints, carbon footprints, impact on biodiversity, life cycle analysis and so much more. It is filled with links to external resources and pros and cons of numerous material types.



The Guide is 19,99 € but the guide is available free of charge to universities, schools, journalists, and members or partners of the Porto Protocol. To request your free copy, please email info@portoprotocol.com with the subject line "Request for a Free Copy."

Click here to buy the Porto Protocol's 'Unpackaging Wine' Guide.

Recycling Partnerships

Several waste management companies provide specialised recycling services for wineries and vineyards to manage waste sustainably. They offer tailored programmes for recycling glass bottles, cardboard, and organic waste like grape pomace, reducing landfill waste and promoting sustainability. Examples include Wastesolve, Countrystyle Recycling, Veolia, and Biffa.

Example: Comprehensive waste handling with full UK coverage, ensuring all wineries can access these services regardless of location.

Example: Countrystyle offers convenient food waste collection, ideal for wineries during events.

Example: They conduct waste audits for wineries and vineyards to identify recycling opportunities, improving waste management, reducing environmental impact, and saving costs.

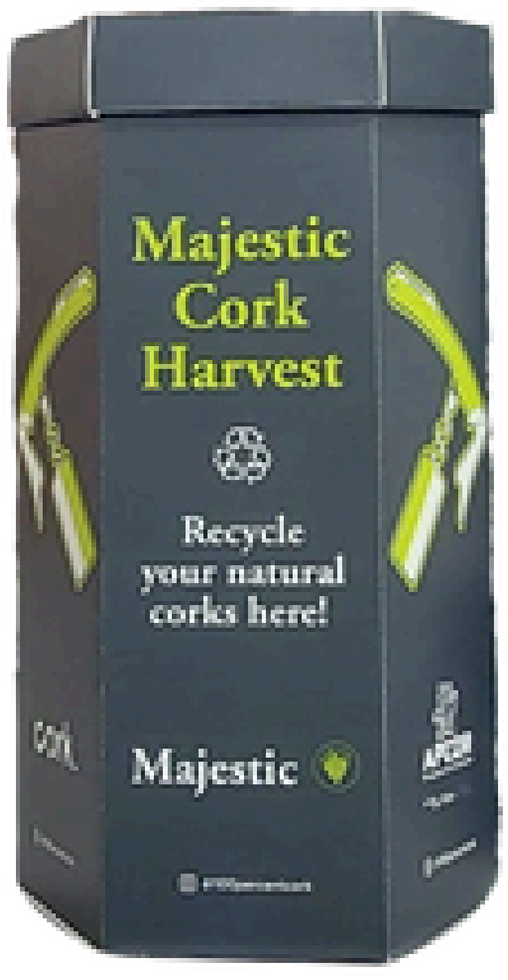
Example: Organic waste collection from grape skins and food waste during harvest events or hospitality operations.

Majestic's Cork Harvest

Majestic Wine has launched the UK's first national cork recycling initiative, known as the Majestic Cork Harvest, in collaboration with the Portuguese Cork Association (APCOR) and the Eden Project in Cornwall. This programme aims to collect and recycle over 1 million natural corks annually, which could offset approximately 309 tonnes of CO_2 emissions each year.

How It Works:

- Collection Points: Customers can deposit their used natural corks (excluding synthetic ones) at designated collection bins located in all Majestic stores across the UK.
- Alternative Drop-off: Corks can also be handed to Majestic van delivery drivers during deliveries.
- Recycling Process: Collected corks are sent to the Eden Project, where they are repurposed as mulch to enrich soil and protect plant roots, particularly in Mediterranean plant areas.



Environmental Impact:

Natural corks are a sustainable and renewable resource. According to a study by Pricewaterhouse Coopers, corks are over 20 times more environmentally friendly than screw caps.

However, the UK previously lacked a nationwide cork recycling scheme, making this initiative a significant step towards sustainability in the wine industry.

Policy Template

Ensure that any changes you make, stay and continue to improve

Sustainable Packaging Policy

1. Purpose

[Company Name] is committed to reducing its environmental impact by implementing sustainable packaging practices across the entire supply chain. This policy ensures that our efforts are embedded within our company culture and operations, guiding both current and future business activities to continuously improve packaging sustainability.

2. Scope

This policy applies to all departments, suppliers, and partners involved in packaging design, sourcing, production, distribution, and disposal. It covers primary, secondary, and tertiary packaging materials used throughout our supply chain.

3. Guiding Principles

To achieve our sustainability goals, we commit to the following principles:

a. Reduce: Minimise packaging material use without compromising product integrity or safety.
b. Reuse: Prioritise reusable and returnable packaging where possible.
c. Recycle: Increase the use of recycled and recyclable materials in all packaging.
d. Innovate: Invest in research and development of alternative, low-impact materials.
e. Collaborate: Work with suppliers, customers, and industry partners to advance sustainable packaging solutions.
f. Educate: Provide ongoing training and awareness initiatives for employees on sustainable packaging practices.

4. Implementation Strategy

- Company-Wide Commitment: All departments must integrate sustainability principles into packaging decisions.
- Supply Chain Engagement: We will collaborate with suppliers to source environmentally responsible materials and packaging solutions.
- Lifecycle Assessment: Conduct [time period] audits to assess the environmental impact of packaging and identify areas for improvement.
- Regulatory Compliance: Ensure all packaging meets or exceeds national and international sustainability regulations.

5. Long-Term Commitment & Continuous Improvement

This policy will be reviewed annually to evaluate progress and adapt to new innovations, regulations, and industry best practices. Sustainability performance metrics will be tracked and reported periodically to drive accountability and continuous improvement.

6. Responsibilities & Accountability

- Senior Leadership: Responsible for endorsing and supporting the implementation of this policy.
- Sustainability Team/Committee: Oversees the execution of sustainable packaging initiatives and tracks progress.
- Product Development & Marketing: Integrate sustainable packaging considerations into product design and branding.
- All Employees: Expected to contribute to and uphold sustainable packaging practices in their respective roles.

7. Reporting & Communication

Regular updates on progress, achievements, and future goals related to sustainable packaging will be communicated internally and externally to stakeholders.

8. Review & Revisions

This policy is a living document and will be reviewed annually by the Sustainability Team/Committee to ensure it remains effective and aligned with evolving sustainability standards and company objectives.

Effective Date: [Insert Date]

Approved by: [Name/Title]

Next Review Date: [Insert Date]

Use this template (copy and paste, or take inspiration from it) to implement long term sustainable packaging solutions in your company. Begin by adapting the sections to fit the specific needs and objectives of your organisation. Ensure that the policy clearly outlines the roles and responsibilities of team members, sets measurable goals for sustainability, and includes a timeline for implementation. Regularly update stakeholders on progress and achievements to maintain transparency and accountability. Remember, this document should evolve with industry standards and organisational growth, so schedule annual reviews to make necessary adjustments.

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Section 4:

Insights and Further Learning

Research

What Research Is Being Done?

The wine industry is conducting extensive research into alternative packaging formats to reduce carbon emissions and environmental impact. Studies focus on materials, recyclability, consumer acceptance, and logistical efficiency. Key research initiatives include:

- Carbon Footprint Analysis of Packaging – Studies track emissions across the entire lifecycle of packaging, from production to disposal.

- Packaging Trials – Various alternative formats, including Bag-in-Box (BiB), rPET bottles, and paper bottles, are being tested for durability, wine quality preservation, and consumer response.

- Recycling & Circular Economy Studies – Researchers are assessing how returnable glass, PET, and BiB materials can be efficiently recycled and reintroduced into the supply chain.

- Lightweight Glass Development – Experiments are underway to reduce the weight of traditional glass bottles while maintaining strength and preventing breakage.

- Consumer Perception Studies – Surveys and sales data are being analysed to understand consumer willingness to adopt new packaging formats and pay for sustainable options.

What Research is Happening?

- Trialing Alternative Packaging Formats:
  - The Wine Society conducted a trial with BiB and flat rPET bottles, offering wines in three formats (glass, BiB, rPET) to measure performance, quality, and consumer preference.
  - Packamama and Enval are developing scalable solutions for lightweight, recyclable packaging.
  - Sustainable Wine Solutions is testing returnable bottle systems to create a circular economy.

- Measuring Carbon Savings & Transport Efficiency:
  - Researchers are quantifying emissions reductions when switching from glass to alternative materials. The Wine Society trial estimated a 31% reduction in transport emissions due to lighter packaging.
  - The Australian wine industry is testing how packaging weight reductions can contribute to net-zero goals by 2050.

- Studying Wine Quality & Longevity:
  - Trials examine oxygen ingress in BiB and PET, testing shelf life and wine stability over time.



What Are They Trying to Find Out?

- Can alternative packaging maintain wine quality? – Studies are testing whether PET, BiB, and paper bottles affect wine aging, taste, and preservation compared to glass.

- How much carbon can be saved? – Research is quantifying the emission reductions of various packaging options, with estimates showing that paper bottles reduce emissions by 84% compared to glass.

- Will consumers accept sustainable packaging? – Consumer trials aim to determine if wine drinkers are willing to switch from glass to alternative formats. Initial trials show 90% of UK consumers are open to repurchasing glass-free packaging.

- How can recycling and reusability be improved? – Studies focus on scaling up bottle return schemes and improving recycling for BiB inner bags and PET bottles.

What Conclusions Are Emerging?

Glass remains essential for aging wines, but alternatives work for ready-to-drink wines – Flat rPET bottles and BiB are viable for short-term consumption, but not for wines meant for long-term aging.

Lighter packaging significantly cuts emissions – Moving away from heavy glass reduces transport and production emissions, with lighter glass and BiB formats offering immediate benefits.

Consumer acceptance is growing – Trials show that wine buyers are increasingly open to alternative formats, particularly younger consumers and those prioritising sustainability.

- Regulations like EPR and DRS will drive change – Policies that increase producer responsibility for packaging waste will likely accelerate the shift to more sustainable options and the income derived from this scheme to the government *should* result in more consistent and better recycling infrastructure throughout the country.

Research into sustainable wine packaging is proving that alternative formats can reduce emissions, cut costs, and appeal to eco-conscious consumers. However, industry-wide adoption will depend on scalability, regulatory support, and maintaining wine quality across different packaging options.

Glass Alternatives



Canned Wine

Aluminum cans are emerging as a sustainable alternative due to their recyclability and lower weight, leading to reduced shipping emissions

Paper Wine Bottles

The product offers up to 84% lower carbon emissions and reduced water usage. Made from recycled paperboard with a recyclable food-grade liner, it is lightweight, easy to transport, and fully recyclable, making it eco-friendly for wineries and consumers.





Bag-in-box

Bag-in-box packaging is lighter and reduces transportation emissions. This method can result in a carbon footprint that is only 12-29% of that associated with traditional glass bottles.

Wine Kegs

Serving wine from kegs reduces wastage, lowers carbon footprint, and keeps wine fresh longer. It also cuts disposal and storage costs while enhancing sales with various serving sizes and refill options.



Glass Production

In a pioneering trial, Encirc, in collaboration with Glass Futures, successfully produced glass bottles using 100% recycled glass (cullet) and powered the furnace entirely with low-carbon biofuels.

Conducted at Encirc's Derrylin facility in Northern Ireland, this project demonstrated the potential to cut the carbon footprint of glass bottle production by up to 90%, a major leap forward in decarbonising the glass industry.

The initiative was part of the UK government's Energy Innovation Programme, funded through the Department for Business, Energy & Industrial Strategy (BEIS). The trial marks the first time globally that a full-scale glass production run was carried out using biofuel and recycled content at this scale, highlighting a viable pathway towards net-zero emissions manufacturing.

If adopted across the industry, this method could transform how glass bottles are made, setting new standards for low-carbon, closed-loop glass packaging in sectors like wine, beer, and spirits. Encirc aims to use this model to produce net-zero glass bottles at scale by 2030.

Sustainable Wine Solutions

Vino Tap: A Zero-Waste Wine Solution

Vino Tap is an innovative, zero-waste wine delivery system designed to minimise environmental impact by eliminating single-use packaging. This system allows consumers to purchase wine in reusable containers, which can be refilled multiple times, significantly reducing waste associated with traditional bottling methods. By utilising Vino Tap, both consumers and producers contribute to a circular economy, promoting sustainability within the wine industry.





Wine on Tap/Keg: Enhancing Sustainability in Wine Service

The concept of serving wine on tap, or from kegs, has gained traction in various venues, including pubs and restaurants. This approach offers several environmental and operational benefits:

- Reduced Waste and Recycling Costs: Serving wine from kegs diminishes the need for individual bottles, leading to lower recycling requirements and associated costs.
- Extended Freshness: Wine stored in kegs remains fresh for extended periods, reducing spoilage and waste compared to traditional bottling methods.
- Efficient Storage and Transportation: Kegs allow for more efficient storage and transportation, as they can hold larger quantities of wine compared to individual bottles, thus reducing the carbon footprint associated with logistics.

Frugalpac


Press to split


Separate by hand


Recycle cardboard and pouch

The Frugal Bottle is a sustainable alternative to traditional glass bottles, It has a carbon footprint up to six times (84%) lower than a standard glass bottle, emitting only 91.9g CO2e compared to 558.2g CO2e for imported glass. Weighing just 83g, it is up to five times lighter than glass, making transportation more efficient, cost-effective, and less harmful to the environment.

Made from recycled paperboard, the Frugal Bottle uses 77% less plastic than a plastic bottle, containing only 15g of plastic compared to 64g in a fully recycled plastic bottle. It is also designed for easy recycling – users can separate the plastic food-grade liner from the paper bottle and place them in the appropriate recycling bins, or they can recycle the entire bottle in paper waste, where the liner will be automatically separated during the paper re-pulping process.

Additionally, the Frugal Bottle dramatically reduces water consumption, using four times less water than glass bottle production.

While it takes 2.5 litres of water to produce a lightweight 345g glass bottle, the Frugal Bottle requires just 0.6 litres.

The Future of Packaging

Bottle Reuse

In the English wine sector, organisations such as Sustainable Wine Solutions are advocating for sustainable practices, including bottle return schemes. These initiatives aim to reduce waste and promote environmental responsibility within the industry.

The Bottle Return Scheme gives wine bottles a sustainable second life, allowing each to be returned, sterilised, and reused at least 30 times, reducing its carbon footprint by up to 95%. With the UK hospitality sector sending an estimated 129,000 tonnes of glass to landfill annually, traditional recycling is not enough to curb waste. This scheme offers a practical solution, delivering wine in reusable bottles with FSC-accredited recyclable paper labels, no neck foil, and a TCA-eliminating DIAM cork to further minimise waste. Bottles are collected and delivered in recycled plastic crates, eliminating the cost and hassle of glass and cardboard waste collection. A 50p refundable deposit incentivises return, with a goal of recovering 90% of bottles in off-trade and 60% in on-trade. While the bottles and labels are fully recyclable, the aim is to maximise reuse, preventing unnecessary energy consumption and emissions linked to glass production, transport, and disposal.

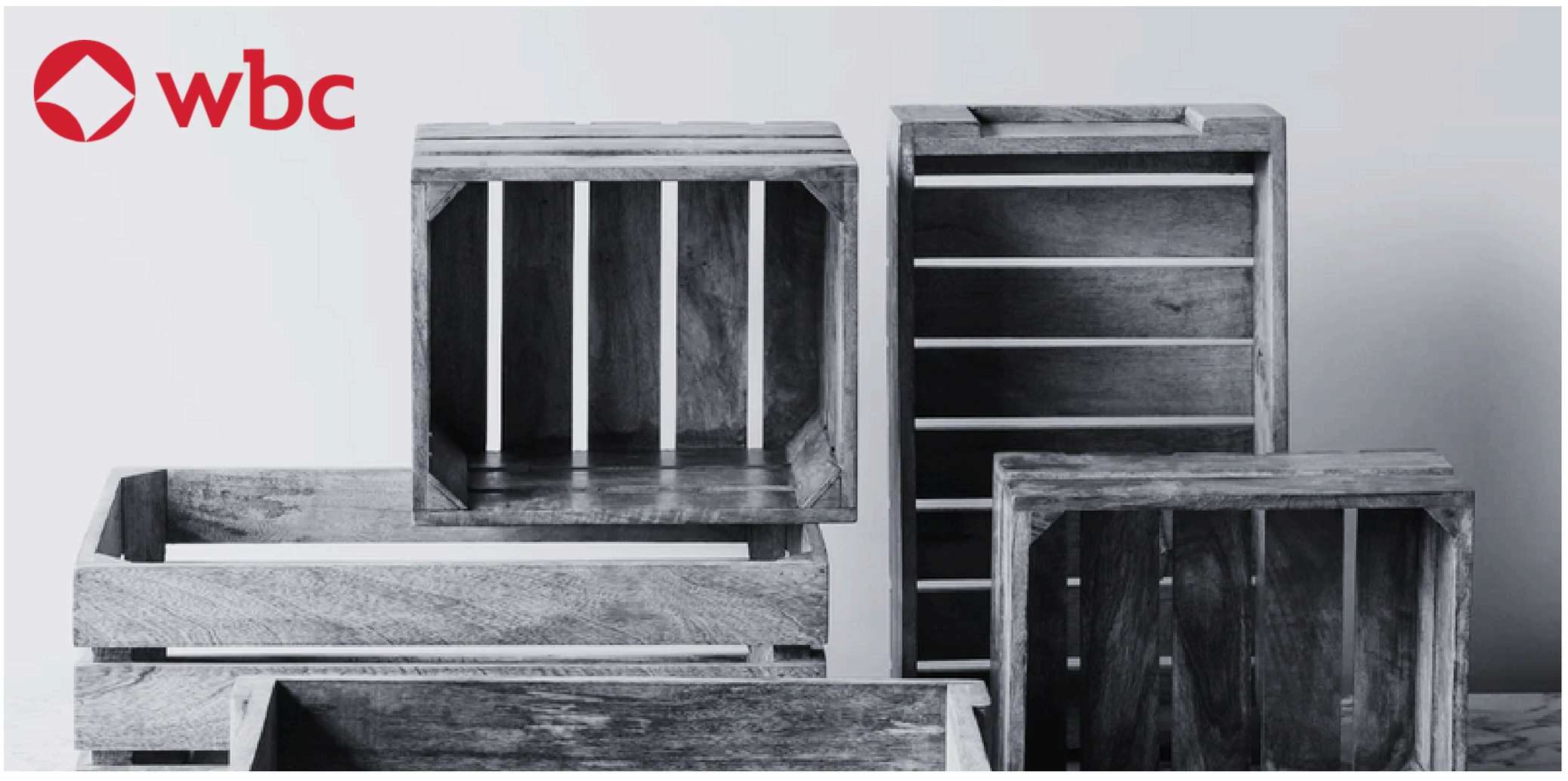


Ireland's recent success with its bottle deposit return scheme, which saw returns rise from 2 million to 111 million containers per month within six months, demonstrates the potential effectiveness of such programmes.

Mango Display Boxes

WBC has started offering a collection of countertop display products made from 100% mango wood. This resolution is based on the following:

- Mango trees are abundant in many parts of the world and reach maturity in just 15 years.
- Fruit is produced throughout this lifespan and, once their crop starts to dwindle, they are automatically cut down and used for timber and bioenergy, ensuring that they serve a complete, waste-free purpose.
- They naturally reduce emissions through carbon sequestration, which helps to mitigate the climate crisis.
- They support their native ecosystems by providing food and shelter to indigenous wildlife and preventing soil erosion.
- Mango tree plantations also provide jobs for local farming communities, guaranteeing security and economic growth in those regions.



The Green Gen Flax Bottle

The Green Gen Flax Bottle® is a sustainable alternative to traditional glass bottles developed by Green Gen Technologies as. Crafted entirely from bio-sourced or recycled materials, this bottle is approximately ten times lighter than standard glass bottles, significantly reducing transportation emissions. Key Features include:

- Weighing only 85 grams, the bottle's reduced weight contributes to lower carbon emissions during transportation.
- Sustainable Materials:
  - Composite Shell: Made from 100% natural flax fibres, providing durability and a unique, organic appearance.
  - Liner: Utilises rPET (or PET, depending on availability) for wines and PLA for spirits, both of which are food-safe and contribute to the bottle's recyclability and compostability.
  - Bio-sourced Resin: A natural French resin binds the flax fibres, creating a sturdy composite structure.
- Environmental Benefits:
  - Renewable Resources: Flax is a biodegradable, plant-based resource grown locally in France, the world's largest producer of flax.
  - Reusability: The bottle is designed for reuse, suitable for refilling with water or wine from a bag-in-box, promoting a circular economy.Green Gen Technologies
  - Customisability: The natural flax fibres can be dyed in various shades to align with brand identity, offering aesthetic flexibility.



The Green Gen Bottle Carton

The Green Gen Bottle® Carton is crafted entirely from renewable materials.

Key Features:

- Sustainable Materials: Made from kraft cardboard derived from plant fibers, a renewable and sustainable resource.

- Lightweight Design: Weighing only 130 grams with a cap, the bottle is significantly lighter than traditional glass bottles, reducing transportation emissions and costs.

- Recyclability: The bottle can be easily disassembled by consumers, allowing for straightforward recycling of its components.

- Protective Inner Liner: Features a retractable inner liner that ensures optimal preservation of the liquid's quality after opening.

- Customisable Design: Offers a design similar to traditional glass bottles, with options for colour and branding customisation to enhance shelf appeal



Reading List

- British Glass – Industry perspectives on the inclusion of glass in Wales' DRS.
- DEFRA Blog – Government insights into the upcoming DRS.
- FT.com – Explaining how the EPR scheme will cost UK retailers £2 billion annually.
- Just Drinks – Evaluating the sustainability impact of different wine packaging formats.
- Liquor & Wine Outlets – Future trends in eco-friendly and consumer-friendly wine packaging.
- Sensoneo– Container Deposit Legislation – Providing background on international bottle deposit return schemes.
- Sustainable Wine Solutions' research on bottle return schemes.
- The Ends Report – Reporting on Biffa's legal action against the Scottish Government over a failed Deposit Return Scheme (DRS).
- The Guardian – Discussing the rise of wine kegs and their sustainability benefits.
- The Guardian – Examining seasonal recycling challenges.
- The Guardian – Reporting on stagnating recycling rates in England.
- The Independent – Detailing Wales' decision to include glass in its DRS, differing from England's approach.
- The Times – Covering concerns from beverage companies about the potential impact of EPR and glass taxes.
- The Times – Exploring the UK's plans for a bottle return scheme and comparisons to successful European models.
- The Times – Highlighting how environmental groups are pushing for DRS to tackle littering.
- Water Technologies (Veolia) – Detailing Veolia's sustainable water treatment for wineries.
- Wine Ninjas – Discussing Thirsty Birds' transition to wine pouches.
- Wine Society's Alternative Packaging Trial (including BiB and rPET bottle testing).

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Section 5:

Thank You

Thank You

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WINE GB

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Autajon LABELS ROYSTON

wbc

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VINEYARD & DISTILLERY

thirsty birds

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