

# WINEBUSINESS MONTHLY

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CHRIS LUECK

# Wineries Look to Bottle Reuse to Boost Sustainability, Consumer Interest

L.M. Archer

**ONCE A STABLE LINE** item, glass wine bottles currently prove to be more of a moving target for wineries. Some attribute glass instabilities to post-pandemic supply chain shortages, Ukrainian conflict interruptions, raw materials exploitation and consumer sustainability concerns.

Currently, glass bottles account for approximately 29% of a winery's carbon footprint, according to the California Wine Institute [see chart]. Studies by The Porto Protocol, an international wine industry non-profit dedicated to mitigating climate change, put that total closer to 50%-70%, when including the energy needed to melt glass and transportation outputs.

Moreover, silica sand, a key component in glassmaking, ranks second as the world's most exploited resource behind water per a 2022 UN report. It's a complex problem, for sure.

However, some innovative wine industry professionals are opting for glass wine bottle reuse schemes to reduce waste, increase sustainability and mitigate unreliable sourcing. How do they do it?

## Circular Economy

Glass bottle reuse isn't new. "Bourgogne has had bottle washing reuse since the 1970s," stated Diana Snowden Seysses of Domaine Dujac in Morey-Saint-Denis, France.

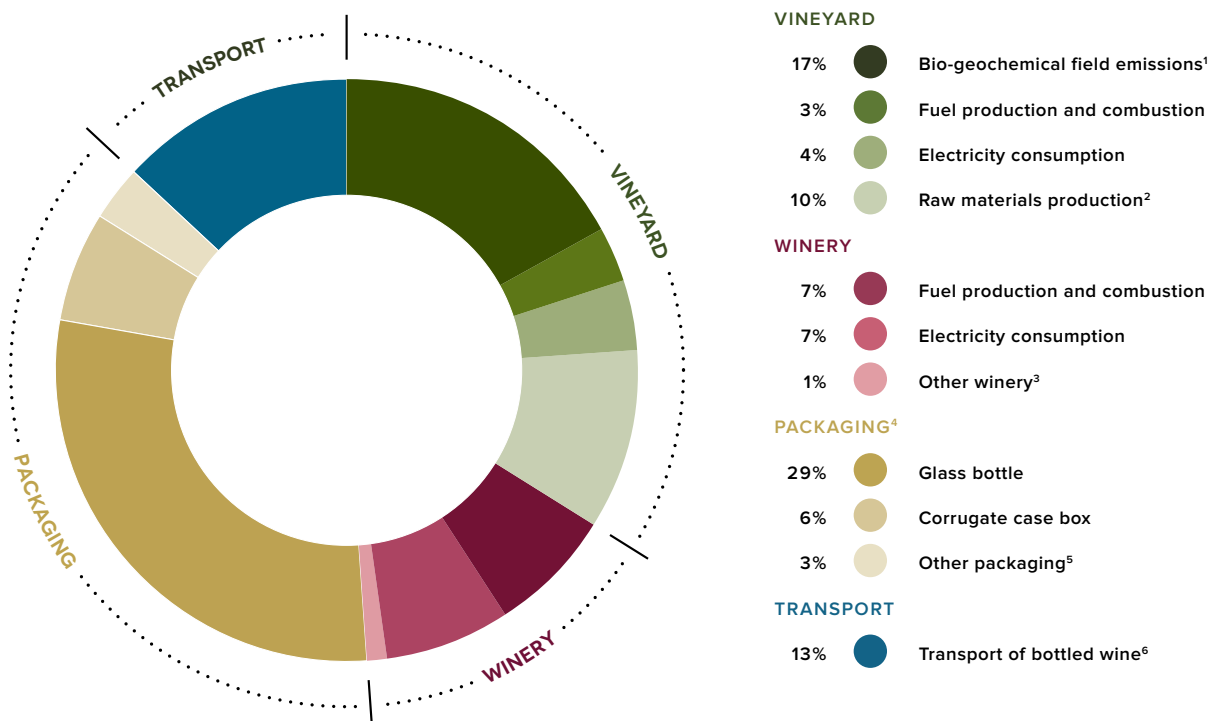
"Reusable bottles schemes have existed in the past for a long time, even if they are with other materials," added Marta Mendonça, manager of The Porto Protocol, where Snowden serves on the Global Steering Committee. "Unfortunately, those disappeared. What we are seeing nowadays are these coming back to life."

"The circular economy approach that we have been witnessing in Europe in other materials, I think has inspired, in a way, this movement of looking at our resources in a circular way," confirmed Cristina Crava, The Porto Protocol project manager.



LG CRAFTED WINES





<sup>1</sup> Footprint associated with greenhouse gas emissions that are a result of natural bio-geochemical processes and impacted by local climate, soil conditions, and management practices like the application of nitrogen fertilizers.

<sup>2</sup> Footprint associated with the manufacture and shipment of materials used at a vineyard such as fertilizers and pesticides.

<sup>3</sup> Footprint associated with the transport of grapes from vineyard to winery, raw material production, refrigerant losses, and manufacturing waste treatment.

<sup>4</sup> Footprint associated with the manufacture and shipment of materials used for packaging wine.

<sup>5</sup> Footprint associated with the natural cork closure with aluminum foil and treatment of waste at packaging manufacture.

<sup>6</sup> Footprint associated with fuel production and combustion in trucks and trains based on typical distances for the industry when shipping in the United States to retail facilities.

## Proof of Concept

Viable EU and UK bottle reuse projects include Sustainable Wine Solutions, a London wine wholesaler helmed by Muriel Chantal, founder of Borough Wines. Chantal first implemented a groundbreaking wine-on-tap refill program at Borough in 2002 entitled “Straight from the Barrel,” a zero-waste refillable keg system.

Sustainable Wine Solutions grew out of the recent supply chain shortages. Chantal sought to fill the glass bottle shortage gap, so she devised a circular bottle collection and reuse system. The company collects clients’ empty wine bottles in proprietary recycled black plastic crates, transports them via a fleet of energy-efficient electric vans back to their warehouse, sterilizes the bottles in a specialized bottle washer and refills the clean bottles.

After refilling, the team attaches a Forest Stewardship Council (FSC)-certified recyclable paper label, inserts a TCA-eliminating DIAM cork, leaves off the usual neck foil and redelivers to customers. Each bottle withstands reuse ~30 times, thereby cutting its carbon footprint up to 95%.

Right now, Chantal focuses on on-trade and retailers eager for convenience and recycling cost savings, a scale she considers more manageable.

“When you are trying to change behavior, you want to focus on the market that is going to give you success stories,” she noted, “because success attracts success.”

Chantal estimates over 100 customers participate in the monthly pilot bottle deposit program. Clients who spend 25% of their drinks budget with the company receive the service at no charge. The group also recently invested in a machine to compress bottles into sand.

“The sand machine is groundbreaking for us,” said Chantal. “It means that even if we can only reuse 50% of the bottles because of the labels that are too difficult to remove, we can upscale those 50% by transforming them into sand. That sand can be used by gardeners, for ceramic making and for construction—but that’s another subject.”

Eventually, the team wants to prove the viability of adding startups to the project.

Chantal hopes that within a year there will be a proof of concept, and they’ll be able to launch another startup, specializing in bottle cleaning, selling and transforming the bottles into sand with a proper commercial model.

## Starting Small Scale

In the EU, Vignerons Associés Des Monts De Bourgogne, a cooperative comprised of Terres Secrètes in the Mâconnais and Nuits-Beaune in Hautes-Côtes, launched its 2021 Cerço Range at Vinexpo 2023 in Paris.

The organic line first appeared in 2020, featuring light-weight, non-returnable, recycled glass bottles. To further increase sustainability, the association pivoted to washable, returnable bottles for the 2021 vintage.

“It’s essentially the same packaging, except the glass, which is a heavier bottle,” said Fabrice Roelandt, Export Manager, Cerço Range Vignerons Associés Des Monts De Bourgogne, “but a bottle that resists, and is meant to be washed and reused.”

The cooperative partnered with J’aime Mes Bouteilles (“I love my bottles”) bottle service in the Franche-Comté region to handle bottle collection, rewashing and returns.

Roelandt stated that the idea is to start small scale on the local level first, see how it performs and then expand it to catalyze change.

Other EU examples include: Grafé-Lecocq, a negociant-éleveur in Belgium; Oé for Good, a B-Corp brand in Auvergne-Rhône-Alpes; and Luz Environnement, a startup glass reuse company in Bordeaux.

Finally, Styria, a pristine alpine wine region located in southern Austria, ranks among the EU’s oldest and most notable bottle reuse program. Nearly 190 local wineries and 250 local Spar retail markets and partners participate. Vetropak Austria produces over five million distinctive reusable bottles for the program, featuring a Styrian panther stamp and screw top.

Consumers return the bottles to designated collection points and participating wineries; bottle rewashing options vary, according to locale. The program does not offer bottle deposits.

“This could be a deposit system if we wanted to have it,” said Dr. Ingrid Winter, head of Styria’s waste and resource management department which oversees the program, “but the idea was to show that the refill system is possible without using a deposit system.”

It also avoids the hassles of administering bottle payouts to consumers. “There are a lot of wineries that have direct marketing, so they sell in the wineries,” Winter explained. “For them, it would be a huge effort to pay back the collector deposit.”

The sturdier bottle, designed to withstand rewashing, plus the panther stamp, increase bottle costs about two times that of non-returnable bottles. Nevertheless, Winter reckons a reused Styrian bottle effectively costs about the same as a new, cheap bottle, and less than a new Styrian bottle.

Since launching the Styrian bottle reuse program, recycling increased from 30% to approximately 40%, which Winter credits to consumer awareness.



“The information to the public is important because, if the consumer does not bring back the bottles, you cannot have such a project,” she said.

## Early Education and Extended Producer Responsibility (EPR)

Consumer education about the circular economy and recycling starts young in the EU.

Winter stated that generally speaking, every person in Austria is used to learning in kindergarten that you have to correctly separate your waste, which you have at home. “And so I think it’s easier because most have this attitude,” Winter noted.

Moreover, EU municipalities and governments typically manage waste collection and recycling programs.

“Here in Europe, one of the things that probably helps with building up these schemes is that the system of waste collection—it’s public,” said Mendonça. “It’s normally not private as in the U.S.”

Instead, European waste systems operate under the EPR theory. Thus, producers that sell a product in the economy, such as wine, help pay for the post-sale collection of that material.

“European EPR typically has multiple streams: cans here, glass there, paper here, plastic there,” explained Scott DeFife, president of the Glass Packaging Institute (GPI) in the U.S. “The goal is not to collect it at the lowest cost; the goal is to divert as much of it, as possible, from a landfill because the system is better that way. And the separation of the streams means that none of the streams is contaminating each other; there’s less contamination overall.”

## Linear Economy

By contrast, most U.S. municipal waste systems operate via lightly regulated, private subcontractors. Consumers, not producers, pay waste collection fees. Often, subcontracted U.S. waste collection companies concurrently collect and recycle the local community’s waste, own the landfills and operate the Material Recovery Facilities (MRFs) for sorting recycled materials.

Moreover, materials generally arrive at MRFs commingled, hence increasing the potential for contamination and decreasing the probability of recycling. Additionally, landfills charge by weight (TIP fees), thus rewarding more, not less, waste input. Ironically, inert, non-toxic glass also proves a more attractive landfill item than other types of seepage-prone, hazardous waste.

Population densities further inform efficient collection practices. Sparsely populated, rural communities lack high-density tax levels necessary to fund collection services.

“In that scenario, you have an incentive to keep that price low. You’re not paying for efficient collection,” said DeFife. “Your taxes don’t care, in that system, about how good the quality is or how useful it is at every other stage after it’s collected and sorted.”

Thus, the U.S. waste collection system operates a single-stream, linear economy model, emphasizing low cost, disposability, and convenience.

## Spin the Bottle

Interestingly, stateside bottle bills with deposit and ERP provisions do help increase the likelihood of successful bottle recycling.

“If the state already has a clean stream from a well performing bottle bill, expanding that to more beverages is the single best way to more recycled glass,” argued DeFife. “Bottle bills return three to four times the glass recovery of curbside single stream, and it’s mostly high-quality material.”

Presently, 10 states and one U.S. territory have passed such bottle bills. These include California, Connecticut, Hawaii, Iowa, Maine, Massachusetts, Michigan, New York, Oregon, Vermont, and Guam. Unfortunately, not all contain provisions for wine bottle return.

“Until recently, Maine and Iowa were the only bottle bill states that included wine,” explained Eric Chambers, vice president of strategy and outreach for



KELSEY OWEN CREATIVE PHOTOGRAPHY



## Wineries Look to Bottle Reuse to Boost Sustainability, Consumer Interest



Cousins Wine is part of a pilot program that uses carbon-neutral cork, no metal capsules and a washable label for easy cleaning and refill.

the Oregon Beverage Recycling Cooperative (OBRC). “California just recently added wine to its system, and the Oregon Legislature added wine in cans in 2022 as well (effective in 2025). With extended producer responsibility (EPR) legislation impacting packaging in some states, I think that many producers are taking another look at bottle bills. Those who are impacted by container returns, like grocers, will certainly need to be part of those conversations as well.”

In Washington state, which has yet to pass a bottle bill, GPI recently received a grant from NextCycle Washington and the State Departments of Commerce and Ecology to build a glass aggregation hub in rural Eastern Washington wine country. Collected glass goes to glass making facilities on the West Coast for use as cullet, or crushed recycled glass used to make new wine bottles.

“The idea here is to start with wine bottles from the wineries in Central and Southeast Washington—collect the bottles those wineries would otherwise have to send to landfill and then use a co-op model to aggregate the smaller amounts of glass and move them to the West Coast plants in the Seattle and Portland metro areas,” said DeFife. “We are actively looking at sites for the hub in the Tri-Cities area.”

## Changing U.S. Behaviors

Ultimately, the success of U.S. bottle reuse programs relies not just on policy changes but on consumer education.

“Bringing the bottle back is a massive behavioral shift that needs to take place in our society,” admitted Master of Wine (MW) Melissa Saunders of Communal Brands, an importer and distributor in New York City. “I think the motivation to do it needs to be driven by a real feeling that it’s important that we do this. And in the U.S., we’re just not raised that way. A lot of us don’t even really understand what happens to our waste once we throw it away. We just are in the habit of putting it in a bin that we’re told to put it in, and then we don’t think about it.”

Saunders wrote her MW thesis on “Wine Retailers & the Environmental Impact of Packaging.” “You can’t ignore the impact of packaging,” she said. “It starts with production and whatever inputs from an energy standpoint go into that and ends with the waste management piece of things.”

About two years ago, Saunders, also a member of The Porto Protocol, decided to focus on glass reuse. “It really was as a result of recognizing that not only are there always going to be consumers that are wedded to glass, but how do we improve the credentials of that glass?” As a result, Saunders served as wine director for Good Goods, a U.S. bottle reuse startup now operating as Logistics Only.

“One of the barriers to having reuse take off is inefficiencies with the logistics. Somebody has to deliver something, and then somebody else has to come pick it up, versus tying forward and reverse logistics together,” noted Saunders. “So that’s what Good Goods is doing right now; I am one of the wine pilots.”

The pilot includes Cousins Wine, a refillable bottle project produced by Diana Snowden Seysses at her family’s Napa estate. The winery uses a carbon-neutral cork closure, no metal capsules, and a washable label for easy bottle cleaning and refill. Conscious Container, a bottle washing company in Northern California (and fellow Porto Protocol member), performs the bottle washing.

“Because it’s such a small production line, we can trial it at first,” Saunders said. “At the moment, I am distributing it in restaurants only. The idea is the wine bottles will not leave—they can be collected without the extra layer of the consumer having to bring them back. If you’re doing it at a restaurant and the bottles come back, it gives you a point to communicate and educate in the right place, with the right level of cachet. A wine program, promoting something like this, might rub off a little bit on that consumer. You have to crawl before you walk.”

## U.S. Change Makers

Despite logistical headwinds, other U.S. winery bottle reuse programs exist, coast to coast. In Sacramento, winemaker Loraine Scott of Acheson Wine Company established a reusable wine bottle program at her family winery in 2019. Acheson uses etched flask bottles filled from wines stored in metal kegs. Consumers pay \$7 for each returnable bottle, in addition to the cost of the wine. She also offers home delivery within seven miles of the tasting room.

To date, Scott estimates her winery reuses about 6,500 bottles annually. “Since beginning [the] program, we have saved over 35,000 wine bottles from going to the landfill,” she said. “Our winery is 100%-refillable and no longer produces any regular bottled products.”

Further south, La Jolla winemaker Lowell Jooste of LJ Crafted Wines introduced reusable wine bottles in 2016.

“When we started, half our wine was bottled traditionally in 750ml bottles with corks,” Jooste explained. “Customers were offered the same wine in these 750ml bottles or the 1-liter growler (with a \$6 deposit) directly out of the barrel for the same price, the difference being that we did not pay for bottling and packaging. Ninety-nine percent of customers chose the 1-liter option with an extra 250 ml.”

Each Italian-made flask sports the winery’s screen-printed logo and required government verbiage, along with a peel-off label that lists the variety, ABV, AVA and vineyard. Jooste pumps the wine from barrels into bottles using an ingenious, air-tight wine pumping system he patented called the “Wine Steward.”

LJ Crafted Wines sells about 18,000 1-liter growlers annually and reports a 93% growler return rate, essentially cutting the winery’s carbon footprint in half.

“Hopefully, more wineries will adapt to reusables for their hospitality side,” Jooste said. “It makes sense environmentally, economically and sends the right message.”

## Breaking New Ground

Whether part of a circular or linear economy, wine industry stakeholders worldwide remain committed to implementing successful bottle reuse programs, regardless of the challenges.

“I think it’s difficult everywhere,” concluded Mendonça. “If you look at all the examples we gave you—retailers, an importer that works B2c, a B2B producer, a company that washes bottles—these are all the leading stakeholders, none like the other. Each project is unique in its own way, but there is a drive behind every person that does it, no matter where they are in the world. They’re all breaking ground.” **WBM**