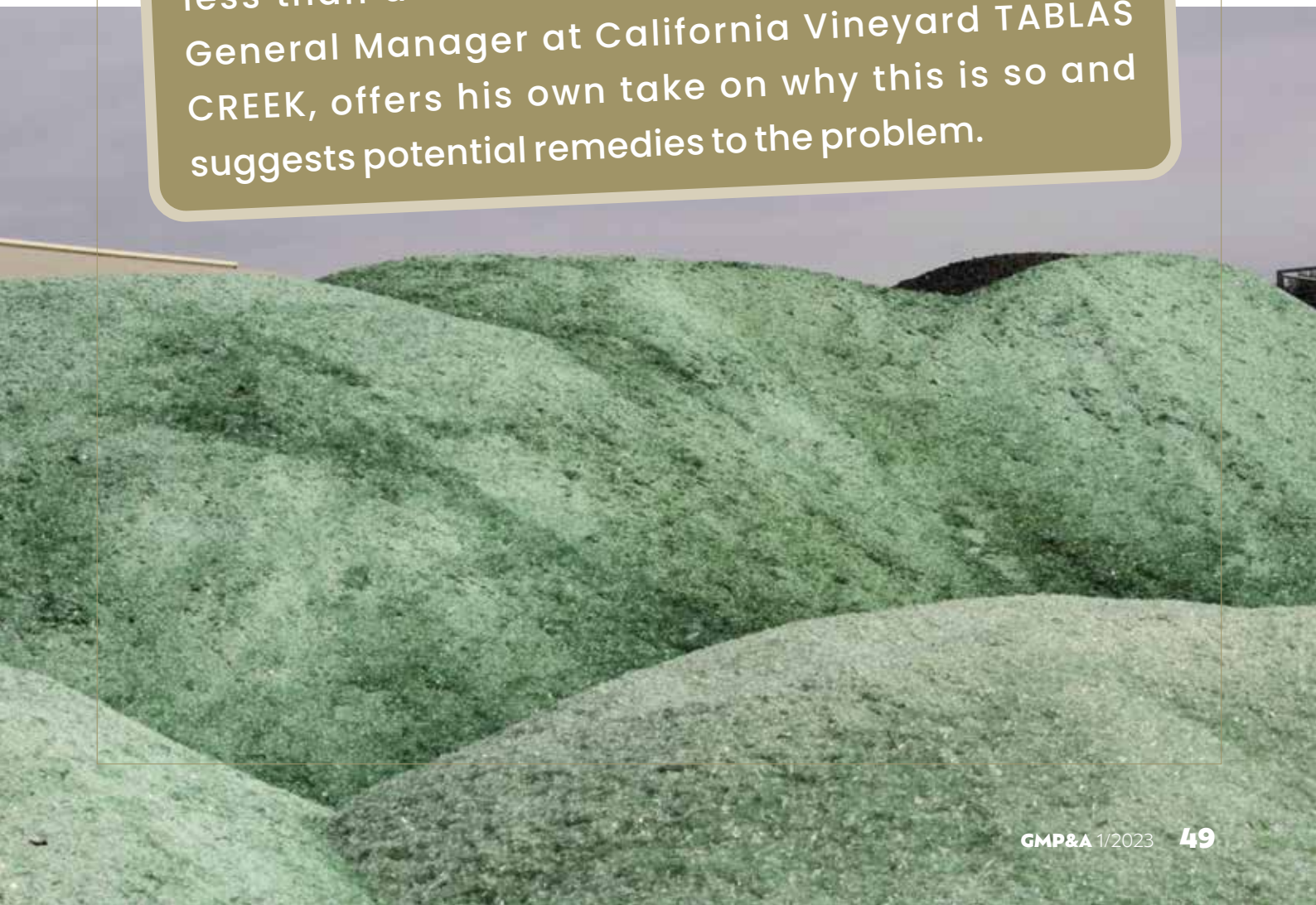
TABLAS CREEK's Jason Haas examines glass recycling in the US

A perfect product for recycling, glass can be easily melted down and reused without any degradation of its quality. Yet in the United States it gets recycled less than a third of the time. Here Jason Haas, General Manager at California Vineyard TABLAS CREEK, offers his own take on why this is so and suggests potential remedies to the problem.



As a product glass has a number of inherent advantages. Coming from sand it derives from a readily-available and non-toxic source. It's exceptionally stable and nonreactive and, as such, provides a terrific vessel for containing products like wine that one might wish to store for decades. That said, the sub-standard recycling of glass in the US is among the main reasons Tablas Creek has been exploring alternative packaging - like our bag-in-box the vineyard debuted for our Patelin de Tablas Rosé in 2022. It doesn't have to be this way. Other countries recycle a much higher percentage of their glass than we do. Indeed our depressingly low rate of glass recycling was eye-opening enough to have me dedicating a lot of time to researching why that's so over the last few months. My conclusions say a lot about what our society and industry values right now, which is why I'm guessing and hoping my findings can be eye-opening to others as well.'

SOME RECYCLING FIGURES

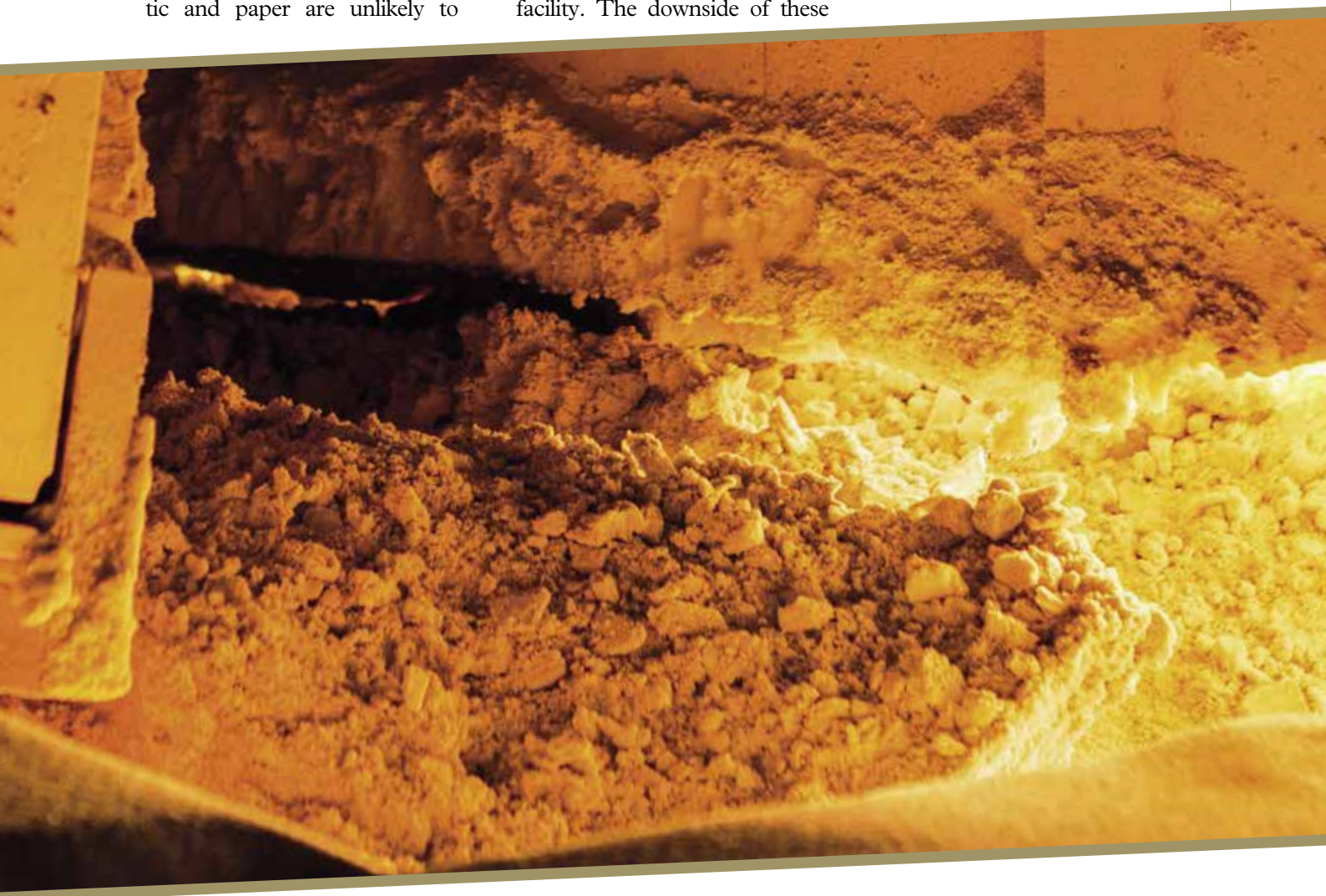
Before we start investigating the whys, here's a quick review of the facts. According to the EPA, in the United States our glass recycling percentage is at 31 percent whereas non-recycled glass represents about 5 percent of the waste that goes into American landfills each year: that's 7.6 million tons of glass annually. Our recycling rate is less than half of that in Europe (74 percent overall) and one-third of the best-performing countries like Sweden, Belgium, and Slovenia (all over 95 percent). But that's not all. It's actually worse than those numbers appear, since a significant percentage of the glass that gets collected and classified as 'recycled' in the United States is in fact crushed up and used for road base rather than melted down to make new glass.

The stakes are significant. Recycling glass has positive impacts not only on the waste stream but on energy use and greenhouse gas emissions as well. According to the Glass Packaging Institute (see Glass Container Recycling Loop published on the GPI website), making new glass containers from recycled glass saves between 20 and 30 percent of the energy, associated with roughly 50 percent of CO2 emissions, and it offsets a greater-than 100 percent requirement for inputs in comparison to working from raw materials. What's more, according to a 2017 survey by the Glass Recycling Coalition, 96 percent of Americans want and expect that glass be included among their recycling options.

KEY HINDRANCES

So why isn't the picture any better when waste glass is a usable commodity, consumers expect to recycle it and doing so even saves costs as compared to working from raw materials? Here the consensus among experts is that it boils down to the following three main factors:

- **The most widely-adopted recycling system in the United States is problematic for glass.** Single-stream recycling, in which glass, plastic, and paper are commingled in a single bin for pickup and transport to a materials recovery facility (MRF), is overwhelmingly the most common community-sponsored recycling system in America. It is convenient for households, which can toss all their recyclables in one place, and for solid waste companies, which can pick them up with one truck. However, while plastic and paper are unlikely to be damaged in the collection process, glass is fragile and often shatters in the collection process, becoming difficult to sort and also contaminating the other recyclables. Plus, single-stream recycling systems encourage "wish-cycling" where consumers throw nonrecyclable products like light bulbs, plastic bags, soiled cardboard, and Styrofoam into their bins figuring that it's better to over-recycle than to throw away something that's recyclable. Doing so adds cost to the recycler and sometimes leads to it being less expensive to send loads to the landfill than pay the cleaning and sorting costs. By contrast, multi-stream recycling systems, in which glass, paper/cardboard, and plastic are placed in different receptacles and collected separately, bypass the MRF entirely and can usually go straight to a processing facility. The downside of these systems is that they cost more for the municipality and solid waste companies, and there is often not the political will to pass along these costs to taxpayers. But the difference in outcomes is stark: just 40 percent of the glass that goes into single-stream recycling systems ends up getting recycled, compared to 90 percent from multi-stream recycling systems.
- **The United States is big.** There are roughly 400 MRF facilities around the country. Yet there are far fewer glass processing facilities, which turn recycled glass containers into cullet or usable fragments, often sorted by colour: just 63 nationwide in 30 states. There are even fewer glass manufacturing facilities: only 44 in 21 states. Processing facilities are often far away from population centres where glass is collected and MRFs



built. Glass is heavy and bulky, which means that the transportation costs from MRF to processing facility can, bar other incentives, raise the price of the cullet that results high enough to outweigh the savings from using recycled glass.

- **Transparency is low, both pre- and post-consumer.** Firstly, from the post-consumer end. Most people don't know what happens to their recyclables once they've been collected. Consumer surveys show that residents overwhelmingly want their communities to recycle and they reasonably assume that if they do their part their municipality will take care of the rest. But municipalities have little incentive to report on what happens after the recycling is collected. Do you know where your town's recyclables are sorted? Or what percentage is sent to the landfill? Do you know whether the process makes or loses money for the community? I didn't. And communities which have mostly chosen a recycling system that gives consumers a false sense of effectiveness lack the incentive to make this information readily available. Secondly, from the pre-consumer end. Ever seen a wine label display the recycled content of its glass? I don't think I have. It's an indication that wineries don't think their customers care about such information, or at least don't care enough to displace other content in what is valuable and scarce label real estate. Bottle suppliers too don't seem to think wineries care about this information. We pushed our glass supplier TricorBraun to get us bottles with the highest-possible percentage of recycled glass. Our antique green bottles are made with between 60 percent and 70 percent recycled material and our flint (clear) bottles made with 35-50 percent recycled material. That's the most available for domestically-produced wine bottles. But such information is hardly easy to find. If you look at TricorBraun's selection of Burgundy-shaped bottles, each listing includes information about weight, base diameter, colour, neck size, height, punt height, mould number, capacity, finish, and style. But there's no information on the bottle's recycled content. That's surely an indication that bottle suppliers either don't see this as a point of differentiation or they simply don't have sufficiently available recycled content to warrant sharing the information. Here wine isn't unique. Glass containers, whether for beverages, food, or household products, don't typically disclose the amount of recycled content - which all makes it difficult for a consumer to make informed purchasing decisions.

POTENTIAL TROUBLESHOOTERS

So what's the way forward for consumers and wineries? Here I discern a few potentially helpful routes we could go.

- **Wineries: ask your bottle brokers and manufacturers about the recycled content of the bottles you buy, then demand bottles with as high a recycled content as possible.** It's clear to me that bottle producers and brokers are not sufficiently focused on increasing the recycled content of their products. If that's the case, it's because this isn't being asked of them by their customers. Wineries of all sizes, but particularly larger ones, have significant market power. We're not a large winery yet we bought circa 350,000 bottles last year. The larger the winery, the more power you have to move the needle. And for wineries that are a part of organizations like International Wineries for Climate Action (IWCA) and so committed to achieving meaningful carbon footprint reductions by 2030, increasing the recycled content of their glass

bottles should be a piece of the solution they're pursuing, along with reducing bottle weight and exploring alternate packaging. This is because, with the glass bottle accounting for more than half the carbon footprint of the average California winery, it also offers the most important target for improvement.

- **Sustainability certifiers: Add a recycled glass component to your winery metrics if you haven't already.** Most California wineries are a part of some sustainability programme. That said, our local programme (SIP Certified) doesn't appear to have any mention of using recycled glass in your bottles in its protocols. Despite any issues I may have with sustainability programmes, they still remain a powerful tool in incentivizing the high percentage of wineries that participate in them to make incremental positive changes. So if wineries are indeed part of some sustainability programme that doesn't include anything about this, they should ask why that's so.
- **Consumers: Ask the wineries that you patronize about the recycled content of their bottles.** If you have a direct relationship with any wineries, reach out to them directly. Wineries are unusual consumer products in that most do have direct relationships with many of their customers. But if you don't, ask your local retailer. If they don't know, they can ask the distributor. The more people along the supply chain who are inquiring about this information, the more pressure there will be on bottle suppliers to use more recycled content, the more market there will be for recycled glass, which will make it more attractive for communities to recycle their waste glass rather than sending it to the landfill.
- **Everyone: Push your communities to be more transparent about the outcomes of their recycling programmes.** This is particularly important if you're a part of a single-stream recycling system. If the recyclables are being sorted and used at a high rate, that's great. But that's likely not so, in which case you should push for multi-stream recycling or at least better education on why materials aren't being used. Is it because of contamination? If so, encourage your community to share information about the costs of 'wish-cycling'. Is it a cost decision? Find out what it would take to implement a multi-stream recycling programme. There are real challenges here, particularly with the market for recycled commodities that are still developing. But the status quo which has local governments quietly misleading citizens about the efficiency of their recycling programmes isn't viable.

We know we can do better because European countries have shown the way, typically via a combination of multi-stream recycling (to produce good supply) and industry mandates for recycled content (to ensure there is demand). Neither of these are impossible in the US. They're simply a question of focus and political will. Granted. The distances are shorter in Europe. Being a densely populated continent, the shipping costs between consumer collection and glass processing are less. But that's an incremental difference. If there were more demand from consumers and beverage producers then there would be more recycled glass products available. That would create a positive feedback loop - encouraging better recycling decisions at community level.

We can do the same, or something similar, in the US. So let's get to work.

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