

ESG Now Podcast

“(Bottled) Water, Water Everywhere”

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Bentley Kaplan

Hello and welcome to the weekly edition of ESG Now, the show that explores how the environment, our society and corporate governance affects and are affected by our economy. I'm Bentley Kaplan, your host for this episode. And on today's show, we are going to get deep into bottled water. Convenient, colorful, lifesaving, expensive, and environmentally impactful, it's become increasingly ubiquitous. But as climate change accelerates and plastic waste accumulates, it's becoming a harder sell. So in this episode, we're going to take a long, hard look at bottled water, how companies are managing its impacts, and what that all means for investors. Thanks for sticking around. Let's do this.

In the US state of Maine, some local residents and a company called Poland Spring have had a long-running legal conflict over the company's contractual rights to access groundwater to use in its bottled water. Residents and activists argue that the company should not be able to secure access to water rights that extend over several decades – something that Poland Spring has been able to do in several locations across the state. In addition to citing potential impacts on surrounding ecosystems, opponents have highlighted the risks of increased water scarcity because of climate change, a point that was made more salient by drought conditions that occurred across the state from 2020 to 2022. And this opposition is also being directed in a bill called LD1111 that would raise the bar on approving water rights and then drastically curtail contract periods. The bill was introduced in Maine's legislature this year, but will be carried over into 2024.

Now the fate of Poland Spring's water rights in Maine probably won't be resolved anytime soon, but the conflict between the company and residents is echoed in other places all over the globe. Conflicts that point to one clear trend – the booming growth of bottled water. Think about it. If you're walking through a supermarket or sitting down at a restaurant, you can be pretty sure of one thing, bottled water will be right there. Or if you're waiting for your next flight or train or hitting the gym, or even walking through the streets of Paris as South Africa win their fourth rugby world cup, boom, bottled water. And not just one varietal either, but still or sparkling or even infused with some type of restorative mineral combination and capped with colored lids that I find particularly soothing. And this phenomenon, which I'm sure that most of you will see as just part of the furniture, is both quite expected and surprising.

Expected because we as biological organisms fundamentally depend on water, so it makes sense to have it nearby most of the time. But it's also surprising because in a lot of places where you can buy water in a bottle, you can also get it out the tap where it's safe to drink and just about free. And aside from some

residents in Maine, bottled water has many vocal detractors who point out issues like plastic waste and the depletion of water resources from natural environments. And with a sluggish start to the circular economy and increasing water scarcity tied to climate change, neither of these issues look to be going away anytime soon. But on the flip side, for all of its detractors, there are also those that stand to benefit from the sale of bottled water, both in terms of companies that sell it and their investors as well as those that depend on it for a safe supply of drinking water. So, there's a lot to tackle here, and we are going to do it one sip at a time.

In the first segment, we'll look at the industry itself. How it arose in the first place, how bottled water became so prevalent, and which companies are behind its rise. And then we'll look at the industry's biggest problem to date, plastic bottles. Billions and billions of plastic bottles. What happens to them, how bad things are really, and what companies are doing about the problem. And then in our third and final segment, we'll finish off by looking at the industry's fastest emerging challenge conflicts over water. Driven in part by growing water scarcity, bottled water companies may well find that accessing groundwater is going to get a lot more complicated. To take us through all of this, I've secured the services of my colleague Cole Martin out of our London office, who started off by giving me the basics of the industry.

Cole Martin

So, believe it or not, bottled water was first used for spa treatment. But its popularity really took off in the 19th century because of concerns around the safety of municipal water supplies, which in some cases spread diseases like cholera and typhoid fever. Now as countries in Europe and the US invested in water infrastructure over the 20th century and developed new techniques to reduce diseases in water supply, the demand growth for bottled water started to moderate over the decades. But recently, we've seen exceptional growth in this industry lately, and there are a couple of reasons behind this. Firstly, in developed markets, bottled water is seen as a healthier and tastier alternative to tap water. While in many emerging markets, safe drinking water from the tap just isn't that accessible, which means that bottled water is consumed instead. So, if you consider the significant increase in health awareness in developed markets in the last 20 years, along with the population, income growth, and urbanization in emerging markets, this has led to explosive growth in sales of bottled water in recent years.

In fact, there's research out there stating that the industry has grown by almost 75% in the last 10 years to be valued around \$270 billion. And there are projections suggesting that the industry could go from \$270 billion to \$500 billion by 2030, which implies around a 9% annual growth rate. In terms of market structure, I think it's kind of interesting because unlike other parts of the beverage market like soft drinks or beer, the bottled water market seems to be quite fragmented with five companies accounting for only around a quarter of global revenues. Pepsi and Coca-Cola, i.e., The Coca-Cola company, TCCC, are the largest companies in the space with around a 7% market share each with the majority of industry sales, around 65%, accounted for by smaller local companies. Finally, in terms of bottled water's, relevance to the market's biggest players, bottled water is a relatively small part of TCCC, Nestle Water's and Pepsi's portfolio, and none of them appear to have been making massive expansion plans for this product line

lately. And in fact, Nestle even sold off its North American bottled water brands in the last couple of years.

Bentley Kaplan

Right. So bottled water as a product is doing great. In the 10 years between 2010 and 2020, the bottled water industry has grown around 75%, and annual consumption of bottled water is sitting at 350 billion liters. And yes, there are big players that Cole mentions like Nestle, Danone, Coca-Cola, and Pepsi. But for those companies, bottled water is a relatively small product segment relative to the other stuff that they are much better known for. And this might be why they aren't aggressively trying to grow their bottled water offerings. And it may well be that the lion's share of any future growth in this market will go to the many smaller companies that sell bottled water. And this growth, as Cole tells it, stems from a few key factors including taste preference. But water safety is also a driver. Remember that bottled water is not just something consumed by people in expensive athleisure wear, after a strenuous Jazzercise class.

If you live in an area where water quality is unpredictable or consistently bad, then bottled water becomes increasingly necessary to avoid the dangers associated with unsafe drinking water. And these reasons for the growth in bottled water seem pretty positive, right? People are trying to improve their health by turning to water, whether that's to avoid sugar and booze or cholera, dysentery and typhoid. Or they're just wanting to treat themselves to delicious tasting water. But for all of the good that bottled water provides, it also has some externalities or negative impacts. And that's what the next segment of this episode is about – arguably the industry's biggest impact to date, and that's plastic waste, an impact that has been well documented. But before I raise your level of anxiety by talking about endless mountains of discarded plastic bottles, I ask Cole for more context on how bad the problem actually is.

Cole Martin

So, within the bottled water industry, it's possible to package bottled water in either glass or aluminum cans. But as of now, basically all bottled water packaging is plastic, particularly using what's called PET plastic, which is the most widely used plastic in the beverage industry today. Now there isn't a lot of hard data on the amount of PET waste generated by the bottled water industry specifically, but some estimates suggest that the plastic waste produced by bottled water containers contributes to around 6.5% Of total plastic waste. And this waste is problematic because of what are called microplastics and macroplastics. Macroplastic waste is essentially what you think of when you think of plastic pollution, discarded plastic bottles clogging up sewer systems and polluting rivers and lakes and beaches and whatnot. But what can be equally problematic are the microplastics, which occur when the bottles degrade slowly into tiny, almost microscopic individual pieces.

Within microplastics, not only do you have the release of hazardous chemicals from the bottles themselves known as persistent organic pollutants or POPs, but degraded microplastics can also absorb other pollutants and introduce those into the environment. And what can ultimately happen is these chemicals can cause problems to, for example, marine wildlife and also end up in the food chain. Now as for recycling efforts – recycling rates are pretty low on a global basis as of now, but in some countries, you can get rates of over 80%, which is encouraging. And on top of that, some companies such as Coca-Cola have introduced targets to reach 50% recycled PET, which is higher than their current rate of around 15% in their bottles by between 2025 and 2030, which appears to be a relatively aggressive target compared to peers. The last thing I'll say on this is that there are efforts to find alternative packaging solutions to the plastic being used now, for example biodegradable plastic and plastic bottles that include an additive that makes a degradation process more eco-friendly. But right now, these are not seen as a breakthrough solution to the problem of plastic waste.

Bentley Kaplan

Okay. So yes, there are a lot of plastic bottles being produced for the sake of bottled water, like billions and billions of bottles every year. But as Cole mentions, a lot of these bottles are now made from polyethylene terephthalate or PET. And PET is fully recyclable, at least technically. And in countries like Denmark and Germany and Norway and Switzerland, you're seeing very successful recycling efforts, sometimes north of 80%. By contrast in other places, recycling stats make for tough reading. The problem is particularly prevalent where you have a trifecta of large or growing populations, unreliable municipal water services, and an absence of adequate recycling infrastructure. Factors that co-occur more frequently in markets like Asia Pacific, the Middle East and Africa. Because the real challenge for plastic waste and bottled water is making sure that empty bottles end up in the right place and that there's a cost incentive to actually recycle them.

And even when all of that is in place, recycled PET is not the same as so-called virgin PET, or the brand-new version of the plastic. You see as virgin PET gets recycled and recycled again, it's not always ending up back as bottled water in its next life. In some cases, it's being directed into other plastic products like textiles, toys, and tires. And these items have a much lower recycling potential. So technically speaking, a lot of PET is actually being downcycled. And if you're a buyer, recycled PET is also often more expensive than virgin PET because of the cost of recycling. And in many cases, recycled PET does not look like the crystal clear plastic that you might associate with bottled water. So bottled water companies are looking at narrower margins and bottles that might not meet consumer expectations.

Companies are under increasing pressure to manage the impacts of their downstream waste but progress on this front has been slow. It's hard to ensure that someone takes their empty water bottle and drops it into the right bin, or even that they have the right bin accessible to them – that the markets they're selling into have appropriate recycling facilities. Regulations are starting to catch up, but not in all markets. As you might expect, the EU is setting the standard with its packaging and packaging waste directive that

has set out targets for recycling 50% of plastic by 2025 and 55% by 2030. And specifically for including 25% recycled PET in bottles by 2025 and 30% by 2030. Companies like Nestle and Coca-Cola and Pepsi have been taking steps to address this, including setting their own recycling targets. And with big companies like this call for more recycled PET, then there is greater incentive to build bigger recycling chains. But a recent legal complaint by the European Consumer Organization and two environmental groups to the European Commission highlights the scrutiny that some of these companies are already under.

The complainants alleged that Coca-Cola, Danone and Nestle have misled consumers by claiming that their plastic water bottles are either 100% recycled or 100% recyclable, and that rests on the assertion that the bottles are not made entirely out of recycled plastic, and that the recycling of used plastic bottles is contingent on many factors. A lot of stuff has to go right, including having recycling infrastructure in place. And maybe you would look at that complaint and see it as more of a consumer and marketing issue. A plastic bottle that is made up of a lot of recycled plastic, say 50% or 70%, is not made entirely out of recycled plastic so you maybe shouldn't brand them as though they are. But using a lot of recycled plastic is better than using a little or none at all. And maybe we'll see improvements here where plastic waste becomes less of an issue for the industry as technology catches up and the right incentives are put in place.

But now we move on to the third and last part of this discussion. Because in an optimistic world where recycling PET becomes the order of the day, bottled water still hasn't cleared one of its fastest growing hurdles. Specifically, its depletion of natural water sources and the social consequences tied to extracting and selling water. And for Cole, this is where things are heating up, quite literally.

Cole Martin

If we think about how much municipal water or groundwater is extracted for bottled water production globally, the industry has a relatively small footprint compared to other municipal water uses like showers or washing machines. And a much smaller footprint still compared to the largest users of groundwater, which is irrigated agriculture. But even taking that into account, it can take between two to four liters of groundwater to produce one liter of final product. And the explosive growth of the bottled water industry could have negative local impacts in places where water extraction isn't sufficiently regulated, which is not unheard of because in many places around the world, the industry has grown much faster than regulators can keep up with. Now some of the largest bottled water companies like Pepsi and Coke, for example, have made pledges around replenishing local water sources to the point where they even exceed how much water the company takes out in the first place.

What's notable is their pledges mainly target areas considered high-risk water regions. And there are instances in the past where companies, including Coke and Pepsi have faced accusations of overexploiting water resources even in areas not traditionally considered high risk. And in a situation

where many of the world's largest groundwater resources are being depleted, both in high-risk and in low-risk areas, you can start to see how this could lead to negative local economic and social consequences. By contrast, if you look at Nestle's water replenishment program, it references everywhere the company has operations, not just high-risk areas, which is a notable difference.

Now, when we talk about climate change, it has the potential to supercharge many of these negative impacts I mentioned earlier. There's the obvious problem around higher temperatures and greater incidents of droughts, which obviously affect water supplies directly. But there are secondary consequences as well, like for example, more extreme weather events like wildfires, hurricanes, floods, cold snaps, et cetera. These events may not necessarily reduce water supply per se, but what they could do instead is lead to failures of the public water system through burst pipes, contaminated reservoirs, et cetera, especially since there has been chronic underinvestment in water infrastructure for decades in many countries. And when the public loses confidence in the public water supply, even temporarily as we've seen in places like Mexico and Australia, these failures lead to a significant increase in bottled water demand, which could exacerbate many of the issues I've mentioned already.

Bentley Kaplan

Right. So if you're a company that's intent on making bottled water a long-term product, or if you're investing in such a company, then as Cole tells it, knowing exactly where your water is coming from is job number one. If you're essentially taking municipal drinking water and doing something like some extra filtering or adding minerals and then selling it for a healthy margin, then maybe you'll come under fire for your downstream plastic waste, depending on your market. And then you might cop some extra flak because you're enjoying tidy profits or relying on taxpayer-funded municipal water infrastructure. And companies with this type of business model would be ones like Aquafina, which is owned by Pepsi, or Dasani owned by Coca-Cola.

But if you're pulling water out of natural sources like springs, aquifers or wells, then things get a lot more prickly. As climate change ramps up, it's possible that water resources are going to become either scarcer or more in demand, or both. And that can mean conflict. Conflict with communities like those in Maine, challenging Poland Springs, long-term access contracts. Or even with regulators, legislators, or industry bodies representing stakeholders like farmers or environmental protection organizations.

At a macro level, evidence is pointing to a net depletion of the world's biggest aquifers. And that net depletion is not something that can be laid at the feet of bottled water – other industries are far more water intensive. And in scenarios where water quality is dubious or water is inaccessible, bottled water is literally a lifesaver. But your case might be a little harder to make if you're relying on virgin PET, which requires two or three liters of water to make a single plastic bottle, and effectively you end up with a net negative impact on water balance. Especially if like some companies today, you're tapping groundwater in

regions with high water stress, places like the US Southwest or parts of India, Pakistan, Morocco, and Turkey.

Further complicating things will be arguments that consumer spend on bottled water might be better directed at strengthening water infrastructure instead, and improving society's access to safe drinking water in the long term. All of this is to say that you can probably expect pressure on bottled water companies to ratchet up, pressure that will come from local residents or farmers or environmental groups or legislators. And the onus will be on companies to know where their water comes from, to know how climate change might affect their different sources, and to have a community engagement strategy that takes into account local nuances and the powerful emotions that accompany any conflicts over an increasingly scarce resource.

And that is it for the week. A massive thanks to Cole for his take on the news with an ESG twist. Thank you very much for tuning in. It's always great fun to be able to host the show and to bring some ESG insights straight to your commute / weekend coffee / kitchen cleaning frenzy. If you have the urge, then do give us some stars on your platform of choice. We take the endorphin hits without shame. And we'll catch you again next week, but until then take care of yourself and those around you.

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