# Muddy Waters

This piece is a companion to an earlier insight, "Scope 3 Under The Microscope", in which I observed that our ESG work has highlighted a number of themes pertinent to a large proportion of our portfolio companies. Having focused on emissions then, I am turning this time to water use – another topic which has emerged as relevant for all of our companies. As you might expect, the beverage and consumer goods manufacturers are under the spotlight but we have also observed impacts on a wider range of companies (even including tech) and identified some other, less obvious but highly "water intensive" industries such as textiles – which is clearly a consideration for our luxury fashion investments. So in this piece I will give an overview of the key water issues facing our companies, tease out what's difficult about responding to water challenges in particular, and explore why our portfolio companies think addressing these issues is important. In the end, we are hopeful that the solutions, changes and investments they are developing and implementing now will be instrumental in mitigating future risks and ultimately improving their business models.

## Global Challenges

Let's start with the global backdrop: historically, water has generally been viewed as a commodity, usually low priced and often government-subsidised. But increasingly this perception is changing, and people are starting to recognise that the headline price of water doesn't always reflect its real costs and associated risks. Broadly these risks fall into two categories: the first is excessive water consumption (often known as "freshwater withdrawals") which in future may either not be possible or could attract a scarcity premium, i.e. higher water prices. The second is pollution associated with wastewater from operations, or as a result of consumer use of products. The former risk is often closely related to climate change – for example, as part of its climate change scenario analysis, cosmetics company Shiseido (held in both our Global and Japan funds) has identified water shortages as a possible occurrence in the event of global temperatures continuing to rise, and so in 2020 the company set a target of reducing water consumption at its business sites by 40% before 2026. And just as the majority of carbon emissions are generally in a particular company's supply chain and therefore outside its immediate control, so the bulk of a company's "water footprint" can be usually found not within its own manufacturing process but either in the use of the product at home or across its supply chain (indeed, the WWF estimates that 70% of the world's freshwater is used for agriculture, and in a 2021 paper Barclays reports that the consumer staples industry in turn "sources the lion's share of agricultural produce as raw materials").

From those baseline issues multiple other business risks emerge, ranging from physical risks such as increased costs, stranded assets or supply chain disruption, right through to regulatory challenges, reputational issues and sometimes all of the above. And these threats are not purely theoretical. Pressure from local people and governments has already impacted on company operations in various countries : for example, some years ago Coca-Cola faced protests about water pollution and excessive groundwater extraction from local farmers in India, resulting in plant closures; and more recently Constellation Brands saw its share price fall 10% after a local vote in the water-stressed Mexican border city of Mexicali rejected plans to construct a $1.4bn brewery. In some parts of the world, scarcity is driving water costs sharply upwards - the price of water rose 48% between March and April 2021 in Southern California* and has continued to climb since - and of course, the impact of rising water prices increases the cost of just about any raw material which requires water to produce. Needless to say, this is pertinent in today's inflationary environment.

## Reducing water consumption

So, those are the challenges – but what about the solutions? Firstly, let's look at efforts to tackle water consumption within the company's own operations, something which tends to be laborious as it is a highly localised issue. Some places have too much water whereas others have too little (what our portfolio company Heineken calls "drought or deluge") so a blanket solution or even a top-down assessment doesn't work. Geographies must be mapped out and initiatives must be developed on a case-by-case basis, a process which takes a long time but can have a meaningful environmental and financial impact when implemented carefully. We consider Heineken to be an excellent example of this kind of work - the company first conducted a global water risk assessment in 2010, working on the ground and with local experts to identify 23 (of a total of 175) breweries situated in water-stressed areas. Since then seven further sites have been added to the list, bringing the total to 30 sites in scope for the company's 2030 water targets. The focus has broadly been on re-calibrating the local area (e.g. reforestation or landscape restoration) and investing in technology to reclaim and recycle

water from production processes, as well as redesigning breweries' water networks to address leaks. Over the past decade the company has achieved a 33% reduction in water consumption in its breweries, which totals €15m in savings. These initiatives aren't limited to beverage makers, either - Shiseido offers a fascinating case study from its French factory, where all water used to clean the equipment was switched to alcohol which can then be fully recycled, leading to an 81% decrease in water consumption at this facility compared to 2009.

## Addressing domestic water use

Secondly, let's turn to efforts to influence and reduce the wider "water footprint". Unilever told us that 99% of its "water footprint" is actually the water used by consumers at home. And Kao goes even further and estimates that 15% of all household water consumption in Japan comes from the use of Kao products (quite an amazing indicator of the scale and penetration of these brands into the country!) and therefore acknowledges that the company has a responsibility to act here. A big part of solving this is developing products which are designed to use less water, or innovating existing offerings to "reset" the consumer's relationship with water. Kao has developed a range of home and personal care products which require around 20% less water, including shampoo, dishwashing liquid and bathroom cleaners; Unilever has launched products such as clothes freshening sprays designed to extend the time between loads of laundry, as well as quick rinse conditioners which break down faster in water and no-rinse products designed to be left on the hair. These "dry" (or at least, "less water") products are of course designed to impact positively on water consumption, but they also represent a commercial opportunity for the two companies.

### Tackling pollution

The second risk component related to water is the potential for pollution and the need to ensure safe and compliant discharge of wastewater from operations. Failure to do so is environmentally damaging and invites increasingly severe fines as well as reputational damage, so we were reassured to find our portfolio companies engaging in comprehensive pre-emptive action to prevent occurrences. Pepsico, held in our Global portfolios, is worth highlighting as an example of a company implementing a successful large-scale initiative (as well as the substantial sums of money required to do so): in 2015 a ten year target was set to ensure that 100% of operational wastewater met its own internal standards, deliberately set as more stringent than local regulatory standards. Following investment of over $21m in water use efficiency and upgrade systems (for example high efficiency recovery reverse osmosis networks), 99% of Pepsico's wastewater operations currently meet internal and external standards – three years early.

And another example from Heineken: having been investing in wastewater treatment plants connected to its breweries since 1999, today the company treats 97% of its wastewater. A good showcase of how this works in practice is a wastewater treatment plant in Rwanda, constructed in 2019 at a cost of €5.4m: this facility first uses anaerobic bacteria to break down organic matter into biogas, which is collected and used as a renewable energy source, and then treats the remaining effluent using aerobic bacteria before returning it to the waterways. This plant treats Heineken's wastewater to such a high standard that it can be discharged back into a local lake. Currently, out of their 175 breweries just ten sites lack an associated wastewater treatment plant - representing 2.5% of beverage production volumes - and Heineken has a stated goal of treating 100% of its wastewater either via its own facilities or via third party plants.

And tackling water pollution doesn't necessarily just mean treating wastewater once it has been used in a manufacturing facility - think of all the thousands of litres of excess shampoo, cleaning products, detergent, shower gels, or soap being washed down the sink every time consumers actually use the product. In some cases, it's possible to design products to have less of an impact starting with their formulations; for example, Unilever is aiming to make all product ingredients and formulations biodegradable by 2030. This represents quite a challenge, as often compound or ingredient switches can't be done without affecting product performance, plus occasionally more biodegradable compounds actually have a larger carbon footprint than the original, but nevertheless significant progress has been made as more than 90% of the ingredients used across Unilever's Home Care and Beauty & Personal Care portfolios are already biodegradable.

### Textiles

Certain industries are challenged from both an absolute water usage and a water pollution perspective - textiles is one of them, and as investors in Burberry and Prada it seems worthwhile to take a closer look at this here. The Ellen MacArthur Foundation estimates that the fashion industry currently uses around 4% of all freshwater extraction globally. Cotton accounts for 24% of global fibre production and is particularly water-hungry - on average it takes between 10,000 and 20,000 litres of water to cultivate just one kilogram of raw cotton. Over the years cotton growing has already caused huge environmental impacts where it has been conducted in non rain-fed areas requiring irrigation - e.g. the water demands of cotton production from the 1950s have resulted in the Aral Sea shrinking to 10% of its former volume, causing environmental and economic devastation in the areas

around it. Cotton is Burberry's single largest raw material, so we were encouraged to learn that in 2021 the company set a target to source 100% certified organic cotton by 2025 - critical as the water pollution impact of organic cotton is 98% less than non-organic cotton production. In the meantime, Burberry procures 78% of its cotton sustainably and is on track to increase this to 100% by 2022. Completing this full transition to organic and sustainable cotton will give Burberry more control over how its key raw material is grown and contribute to minimising the company's environmental impact - as well as burnishing the brand's luxury credentials with ever more environmentally conscious consumers who expect premium brands to offer traceability and organic certification.

## Tech

We are alert to water concerns across the broad range of our portfolio holdings and recognise that there are examples of less obvious water use which have the potential to become difficult if handled poorly - for example, tech companies require substantial amounts of water to cool their datacentres. While the absolute volume of water used for this purpose isn't egregiously high (between 2014-15, US datacentres used 0.14% of all water consumed in the country), there are examples of local pushback to proposed data centres in water stressed areas, e.g. in 2021 officials in Mesa, Arizona spoke out against an upcoming $800m datacentre, citing the c.1.25m gallons of water required each day as "too high" given the arid, water-stressed location. Having observed that several of Facebook's datacentres have proven water-intensive enough to warrant direct attention - in 2020 the company invested in 14 water balancing projects in water-stressed areas - we engaged directly with our portfolio company (and data centre owner) Experian on the topic. We were reassured to hear that the company does not view its datacentre water consumption as excessive, explaining that its Texas facility uses refrigerants rather than water, and that its UK facilities operate a "closed system", with water continually circulating rather than being drawn from the mains.

## Measuring progress

If you're thinking that all of these initiatives sound promising but piecemeal, that's because to a certain extent they are. But there is increasing attention being paid to developing standards and metrics in this area, e.g. the CDP's Water Disclosure Project. This was actually started in 2009 but has gained more traction in recent years, with almost 3000 companies reporting on their water activities through the CDP's Water Security questionnaire in 2020. The CDP also maintains a Water Security "A List", with 12,000 companies evaluated and a total of 118 highlighted as being good players - we're pleased that five of our portfolio companies (Kao, Unilever, Diageo, Heineken and Kirin) are amongst these.

14 out of 24 companies in our Global portfolio and nine out of 19 in our UK portfolio have specific pledges on water, and many of them are now using and reporting under particular metrics. In addition, "water positivity", i.e. replenishing more water than is used in direct operations, is on the rise as a theme. There's no official definition of the term just yet, but this is likely to become more specific over time - and therefore require more stringent adherence to a framework. In exactly the same way as with carbon emissions, our companies' challenge is to ensure that they continue to operate as responsible stewards of natural resources, as well as ensuring products meet the changing needs of consumers, improving their own operational efficiency, bolstering the resilience of their supply chains, and sidestepping the increasing costs and risks associated with water use. And so just as we continue to monitor our portfolio companies' progress on carbon emissions, we'll be doing the same for their water initiatives – and where necessary, engaging on the topic to encourage the development of formal targets and adoption of standardised metrics.

**Madeline Wright, Deputy Portfolio Manager**
**Lindsell Train Ltd**

*The Nasdaq Veles California Water Index (NQH2O), a weekly water price metric. March 17, 2021 water was priced at $529.58 per acre foot - April 7, 2021 the price hit $783.94

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Lindsell Train Limited
66 Buckingham Gate
London SW1E 6AU
ENGLAND

Tel. 020 7808 1210
Fax. 020 7808 1229
www.LindsellTrain.com
Info@lindselltrain.com