



Water: a burning issue for investors

“We don’t have time to solve the water, climate, and biodiversity crisis piecemeal and one at a time.”

This was said by Sandra Postel, winner of the Stockholm Water Prize 2021, at the award ceremony. Unfortunately, this is still what is happening all too often.

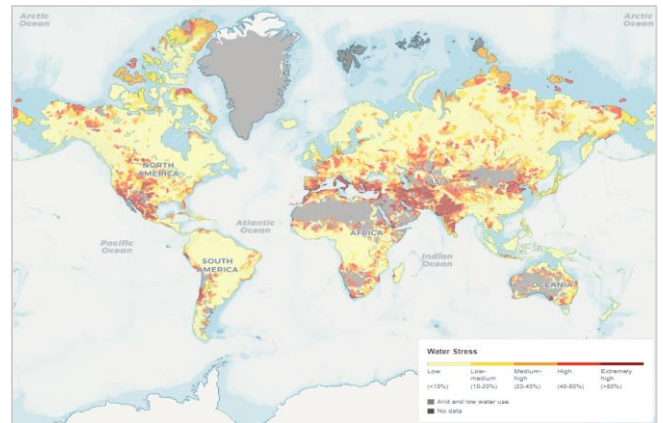
INTRODUCTIE

Given the focus on the climate and recently also biodiversity, companies and investors alike are devoting less attention to water than it deserves. However, water is an investment risk that demands investors’ urgent attention. This article discusses a number of starting points for investors to enable them to better integrate the theme of water into their decision-making. The water crisis is about water scarcity, water pollution, flooding and the lack of drinking water and sanitation. This article focuses on the quantity crisis.

At a global level, the planetary boundary for water has not yet been crossed. Nevertheless, a quarter of the world’s river basins, which account for half of all water withdrawals, are considered “highly stressed”¹, and a quarter of the population lives in countries facing extremely high water stress.² In 2030, the worldwide demand for water is likely to be 40% higher than the supply.³ Population growth and economic development increase the demand for water, while climate change and deforestation reduce its availability. In the past 50 years, 35% of all wetlands worldwide have been lost, the number of freshwater animals has fallen by 84%, and only one-third of all rivers remain free-flowing.⁴ The effects of water scarcity are not evenly distributed, affecting different regions to different extents (figure 1).

The theme of water is closely linked to the themes of climate and biodiversity. Water problems are often caused by changes in climate and biodiversity. This is visible in Brazil, for example, where deforestation is causing changes to rainfall patterns. Less rainfall and a shorter rainy season are reducing harvests, which leads to even more deforestation in order to maintain income levels.⁵

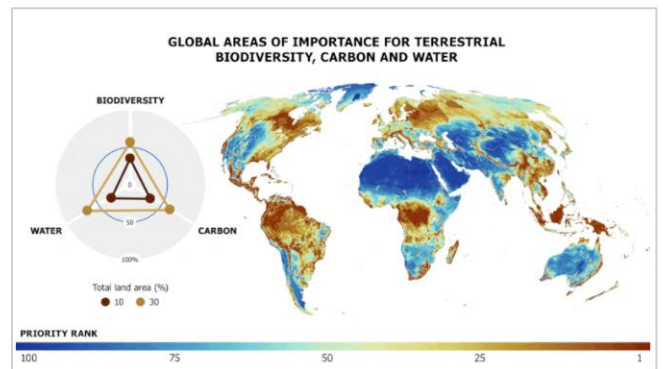
Figure 1: Water scarcity per region



Source: WRI. Aqueduct water risk atlas.

The country thus finds itself in a negative vicious circle of increasing deforestation and drought. At the same time, water can help counteract changes in climate and biodiversity. Wetland ecosystems such as swamps and mangroves have a higher capacity to retain greenhouse gases than forests and they are hotspots for biodiversity. Nature Map Consortium has mapped critical areas that, if preserved in their current state, will have the greatest positive impact on protecting biodiversity, mitigating climate change, and protecting freshwater resources (figure 2).

Figure 2: Hotspots for biodiversity, climate and water conservation



Source: Nature Map Consortium (2021). Areas of global importance for conserving terrestrial biodiversity, carbon and water. Nature Ecology & Evolution, 23 August 2021, <https://www.nature.com/articles/s41559-021-01528-7>

¹ McKinsey (2020). Water: a human and business priority. <https://www.mckinsey.com/business-functions/sustainability/our-insights/water-a-human-and-business-priority>

² World Resources Institute (2020). It could only cost 1% of GDP to solve global water crises. <https://www.wri.org/blog/2020/01/cost-to-solve-global-water-crisis>

³ McKinsey (2009). Charting our water future. Economic frameworks to inform decision-making.

<https://www.mckinsey.com/-/media/mckinsey/business%20functions/susta>

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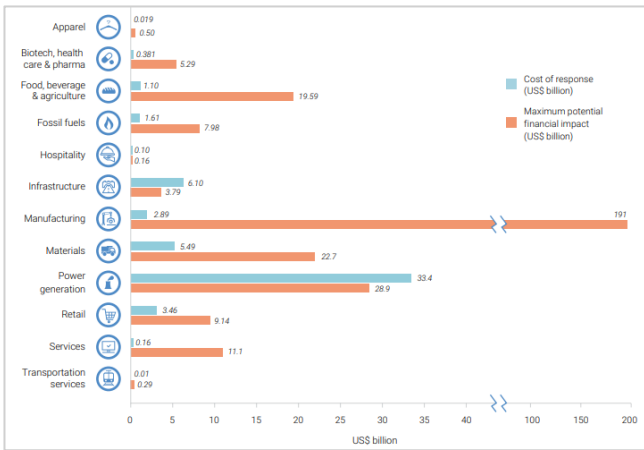
⁴ WWF & ZSL (2020). A deep dive into freshwater. Living planet report 2020. https://wwfint.awsassets.panda.org/downloads/lpr_2020_deep_dive_int_o_freshwater_spreads_embargo_10_09_20_1.pdf

⁵ Planet Tracker (2021). No rain on the plain. Deforestation threatens Brazil’s agricultural exports. <https://planet-tracker.org/tracker-programmes/food-and-land-use/land-use/>

WATER RISKS FOR COMPANIES

The gap between water supply and demand affects the economy. The World Bank expects that the impact on agriculture, health, income and wealth in certain regions, including Asia, the Middle East and the Sahel, could reduce GDP growth rates by 6%.⁶ Companies are also feeling the effects. Water is needed, to a greater or lesser extent, in all production processes. In 2020, CDP reported that the total potential financial impact on companies due to water-related risks amounted to \$ 301 billion.⁷ The cost of mitigating these risks was estimated at just \$ 55 billion. In other words, doing nothing could cost companies five times more than that, with all the associated consequences for investors (figure 3).

Figure 3: Potential impact of water-related risks and costs of risk mitigation by sector⁸

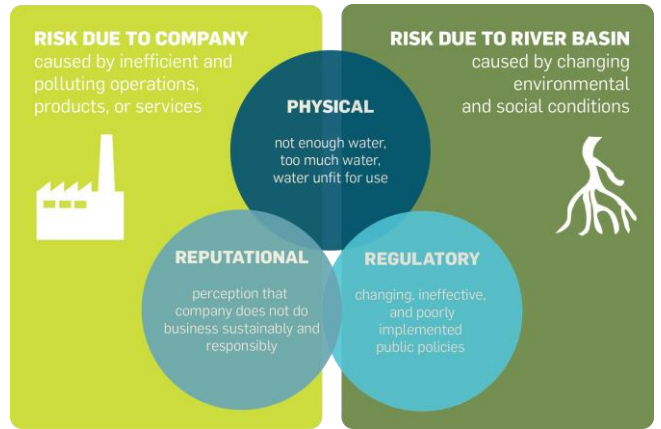


Source: CDP Global Water Report 2020

Companies face risks on several fronts. These are summarised in the CEO Water Mandate diagram below.

On the one hand, companies face **physical risks** if there is insufficient water of good quality for use in their own operational activities and/or the supply chain. In August, a drought in Chile forced the mining company giant, Antafogasta Minerals, to lower its copper production forecast for this year by at least 20,000 tonnes and potentially by another 50,000 tonnes if a desalination project is not launched on time.

Figure 4: Water risks for companies



Bron: <https://ceowatermandate.org/>

Water scarcity also increases the cost of water, for example if companies have to switch to other water sources or if water treatment needs to be improved.

Stricter **regulation** also entails risks. Many countries have laws and regulations on water withdrawal and the discharge of wastewater. Stricter standards due to increasing scarcity and pollution could involve additional costs. In 2016, Suncor Energy reported higher R&D costs to ensure compliance with stricter water quality standards.⁹ Companies could also face fines for non-compliance.

Finally, companies incur a **reputational risk** if water scarcity leads to competition and potential conflicts between them and local communities. In 2020, Constellation Brands posted a loss of \$ 900 million when the construction of a brewery in Mexico had to be halted following a public referendum held in response to concerns about water use. A deteriorating reputation can also lead to consumer bans or reduced demand for a company's products and services.

The risks touched on above are still only having a limited effect on stock market prices. However, it is to be expected that increasing scarcity will lead to increasingly frequent production interruptions which in turn will drive down share prices of companies that fail to take measures to manage their water risks better.

⁶ The World Bank (2016). High and dry: climate change, water, and the economy. <https://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy>

⁷ CDP (2020). A wave of change. The role of companies in building a water-secure world. https://6fefcbb86e61af1b2fc4-c70d8ead6ced550b4d987d7c03fcd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/005/577/original/CDP_Water_analysis_report_2020.pdf?1617987510

⁸ Figures based on corporate reporting. The high maximum potential impact for the manufacturing sector is partly due to a high response rate compared to other sectors and two estimates with significant impact (>USD 50bn).

⁹ CDP (2016). Thirsty business: why water is vital to climate action. <https://6fefcbb86e61af1b2fc4-c70d8ead6ced550b4d987d7c03fcd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/001/306/original/CDP-Global-Water-Report-2016.pdf?1484156313>

THE PATH TO WATER NEUTRALITY

One way for companies and investors to mitigate water risks is by aiming for water neutrality. However, unlike in the case of climate change, no specific path for achieving this has yet been mapped out. However, it is clear which steps will have to be taken in that direction and they provide starting points for identifying investment opportunities.

- **Reducing water consumption:** one of the most important steps towards achieving water neutrality is to avoid consuming water in water scarce areas. Companies could move production to areas with sufficient water or use less water during the production process. This requires more efficient production processes and innovative technologies. The technologies will differ from one sector to another. Mars, for example, is looking at alternative methods of irrigation in its supply chain, such as drip irrigation or Alternate Wetting and Drying (AWD). Anglo American is experimenting with dry tailing disposal. Unilever is looking beyond its own production processes at water use in the consumption phase, for instance in its 'dry' personal care product range, including dry shampoo. And Novozymes is developing chemicals for detergents that enable washing at lower temperatures and with less water. Broader trends, such as more circular production and shifts in consumption patterns (e.g. from animal to plant-based food sources) will make an important contribution to reducing water use.
- **Alternative water sources:** water availability could also be increased by developing alternative water sources, through desalination and rainwater harvesting, for instance. Oceana Group, a South African company active in the fishing industry, owns two desalination plants which not only supply a large proportion of the company's own water needs but also provide water to neighbouring communities.¹⁰ Siemens collects rainwater at its production site in India to prevent rainfall loss during the monsoon season. Some of this water is used for sanitary purposes in its own facilities and any remainder is used to replenish groundwater during the dry season.¹¹
- **Water reuse:** water recycling could still be improved. Currently, 80% of global wastewater is discharged into the environment without sufficient treatment. Water can be reused between production processes as well as between industries and clusters of them. Nucor, an American steel company, reuses 100% of the wastewater from its production process several times. In Italy, the utility company Edison is working with Eurosa, a company that owns greenhouses.¹² The hot water released from the generation of electricity is used to heat Eurosa's greenhouses. Edison then reuses the cooled water in its steam system. Every hour, 20,000 m³ of water is exchanged in this way. Finally, wastewater often contains valuable raw materials that can be extracted for reuse. For example, organic substances in the wastewater from the Syktyvkar factory owned by Mondi, a British multinational packaging and paper group, are used to produce bioenergy.¹³ It has also been estimated that worldwide wastewater contains enough of the fertilisers nitrate, phosphorus and potassium to meet 13% of the world's demand for them.¹⁴ Studies on the potential for reusing these substances have been set up in various locations.¹⁵
- **Restoration of ecosystems:** the ecosystem surrounding a river basin ensures a natural balance of water resources and provides a natural form of water purification. Any disturbance to it can reduce the available quantity of water. Restoring the system can bring the water supply back into balance. Landscape conservation and restoration is therefore an important means of boosting the availability and quality of water around production sites. Several companies, including AB Inbev and Kimberly-Clark, are working with parties specialised in water and nature conservation as well as with local communities and other stakeholders to achieve sustainable water management around their production sites.¹⁶

¹⁰https://oceana.co.za/pdf/Oceana_Interactive_Sustainable_Development_report_2020.pdf

¹¹<https://new.siemens.com/global/en/company/sustainability/resourceconservation/watermanagement-in-india.html>

¹² <https://www.floraldaily.com/article/9076514/italy-we-save-as-much-co2-in-a-decade-as-oxford-produces-in-one-year/>

¹³ <https://www.mondigroup.com/en/about-mondi/where-we-operate/europe/russia/mondi-syktyvkar/>

¹⁴ Qadir, M., Drechsel, P., Cisneros, B. J., Kim, Y., Pramanik, A., Mehta, P., & Olaniyan, O. (2020). Global and regional potential of wastewater as a

water, nutrient and energy source. *Natural Resources Forum*, Volume 44 - Issue 1. <https://onlinelibrary.wiley.com/doi/full/10.1111/1477-8947.12187>

¹⁵ <https://www.bv.com/projects/worlds-largest-nutrient-recovery-facility-produces-valuable-environmentally-friendly-and> <https://www.waterworld.com/wastewater/reuse-recycling/press-release/14197028/project-uses-nutrients-recovered-from-wastewater-to-aid-farmers>

¹⁶ See, for example, <https://www.wwf.org.uk/who-we-work-with/abinbev> and <https://kimberlyclark.gcs-web.com/news-releases/news-release-details/kimberly-clark-applies-innovative-technology-address-risk-water>

INTEGRATION OF WATER AS AN INVESTMENT THEME

Like many other investors, ACTIAM has set objectives for various sustainability themes that its investment portfolio must comply with. One of them is to achieve a water-neutral investment portfolio by 2030. It had already set this objective in 2017 but measuring and monitoring progress in this regard is still a challenge. The main reason for this is that companies in the portfolio are still not sufficiently transparent about their water management, nor are they subject to any mandatory reporting standards regarding their water use. Consequently, not all companies report on it and making comparisons between what different companies do report is not easy. This lack of data prevents many investors from taking a proactive approach to the theme of water. Another obstacle is the fact that the problem is linked to the location in question. All too often, companies and investors tackle problems of water scarcity similarly to those involving climate change. However, the water crisis requires local and context-specific solutions. In any case, the lack of data cannot be a reason to do nothing. Investors can take four steps to help reduce both the water-related risks to their investment portfolio and any negative societal impacts.

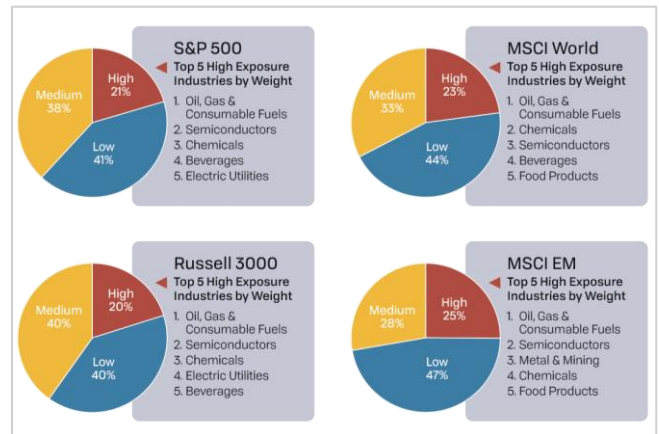
1. Risk assessment

Water-related risks can manifest themselves in both the short and long term. Droughts, floods and water pollution affect economic growth across an entire region or country and across many sectors. Investors can identify the water risks in their portfolio by asking themselves the following questions:

- which sectors in the portfolio have the greatest impact and dependence on freshwater resources? Figure 5 shows that more than half of many common equity indices is made up of sectors with a medium or high water-related risk.¹⁷ This demonstrates the importance of this theme for the average investment portfolio. High-risk sectors with considerable weighting in the mainstream indices are oil & gas companies, microchip producers and chemical companies.
- what is the extent of the exposure to water scarce regions, both now and in the future? A useful tool for this is the Aqueduct Risk Atlas developed by the World Resources Institute.
- how do companies operating in these high-risk sectors and regions manage their water risks? Do they identify these risks and set targets to reduce them?

A risk inventory of this nature provides investors with valuable insights into their assets and their portfolios as a whole, as they provide guidance on adjusting their portfolio weightings, excluding certain sectors or subsectors, and reducing exposure to particular geographical areas. At asset level, a risk inventory is a useful pointer for making the right choices in screening and engagement activities with a view to reducing the water-related risk of individual assets.

Figure 5: Water risks in the various indices



Source: Ceres and KKS Advisors Interpretation of SASB Materiality Indicators (www.ceres.org/investorwatertoolkit)

2. Engagement

Investors can use engagement to encourage companies to improve their water management. Initially, the main focus would be on insisting on transparency and setting targets. Many companies are still insufficiently aware of the water-related risks they face. Of the companies in ACTIAM's equity portfolio that operate in high-risk sectors, only 24% publish their water consumption figures.¹⁸ ENGIE Impact has shown that the companies with the most successful sustainability strategies all initially invested in a deep understanding of the risks and opportunities in this regard.¹⁹ Once companies have identified the risks, they can set targets to improve their water management.

Secondly, once companies have identified the risks, engagement allows investors to gain insight into the management methods used, policy implementation and the extent to which companies take account of the local conditions surrounding a river basin. Involvement in controversies, such as conflicts with the local community concerning water use or the illegal discharge of harmful wastewater, provides useful information on the practical implementation of the water policy.

¹⁷ Ceres (n.d.). Investor water toolkit: portfolio & asset class analysis. <https://www.ceres.org/resources/toolkits/investor-water-toolkit/details#step-1-conduct-portfolio-water-risk-footprinting->

¹⁸ Analysis based on MSCI data

¹⁹ ENGIE Impact (2020). Global Executive Survey. Known Gaps and Blind Spots in Corporate Sustainability. <https://www.engieimpact.com/insights/global-executive-survey-preview>

Investors can also go a step further by collectively looking for solutions to water problems in a particular river basin. Sustainalytics's recent Localised Water Management engagement theme is an example of this. This involved investors entering into dialogue with various companies regarding a river basin, sometimes with NGOs and local authorities, with the aim of jointly developing a sustainable water management plan. There is growing interest in this kind of context-oriented approach, making it increasingly easy for investors to join a collective effort.

3. Link up with existing initiatives

Several initiatives aim to increase corporate and investor knowledge about water risks, improve transparency and raise the level of ambition. Some examples are Ceres' Valuing Water Finance Task Force and WBCSD's Wastewater Zero Initiative. Investor involvement in these types of initiatives helps to increase pressure on companies and make them aware of the urgency of the problem.

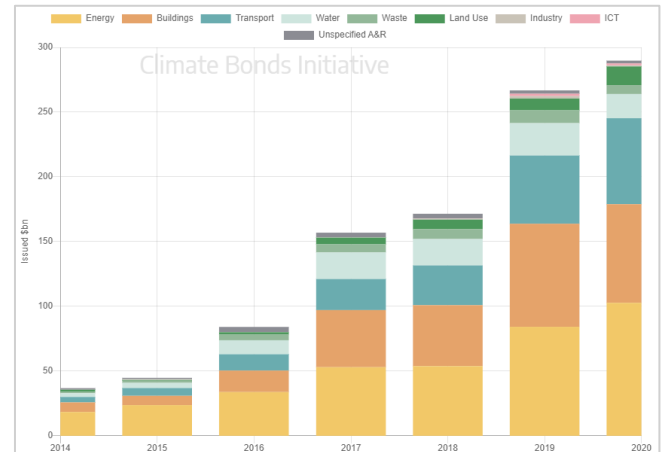
4. Investing in impact

The water crisis offers opportunities to companies involved in developing solutions to it. The additional investment required to achieve SDG6 is estimated at \$1.7 trillion.²⁰ This is three times the current level of investment and it offers interesting investment opportunities. There is a range of solutions available: water purification, desalination, rainwater harvesting, water-saving technologies, recycling technologies, smart meters, etc. Xylem is one example of a company that specialises in solutions for collecting, transporting, treating and reusing water. Ball is another example; in addition to making water-saving packaging, it collects remote sensing data that helps to improve monitoring of water sources, prevent excessive irrigation and provide better mapping of water pollution.

Water is also receiving increasing attention in the green bond market. The use of proceeds from them for sustainable water and wastewater management projects increased from \$ 2.9 billion (7.9% of the total) in 2014 to \$ 19.0 billion (6.5% of the total) in 2020 (figure 6). In addition, the blue bond is a relatively new type of bond that focuses mainly on ocean conservation and restoration and water-related infrastructure. Blue bonds are currently at the point where green bonds were ten years ago. By expanding the criteria to other types of water solutions focusing on, for example, water pollution or water-related climate adaptation, and by setting standards that blue bonds are required to meet, opportunities can be better exploited, enabling the blue bond market to grow in a similar way to the green bond market.

Solutions to the water crisis have received even less attention than climate solutions, which is why the share prices of the companies concerned have not yet risen to astronomical levels. However, the expectation is that this theme will soon receive more attention from companies and investors.

Figure 6: Green bond use of proceeds



Source : <https://www.climatebonds.net/market/data/#use-of-proceeds-charts>

CONCLUSION

Investors are still paying insufficient attention to the theme of water, thus increasing the likelihood of them overlooking significant risks. A major factor in this regard is the lack of availability of data. Nevertheless, this theme offers opportunities for investors. Initially they would be well advised to map out the water risks to their portfolio. Based on the information obtained, they could then take decisions on asset allocation and start discussions with the riskiest companies. Engagement - either individually or through existing initiatives - could then improve both data availability and risk management at individual companies. Irrespective of the risks, however, there are a lot of investment opportunities that have the potential to create a positive impact which will not only help to bring about a water-neutral world but are also particularly interesting from a financial point of view.

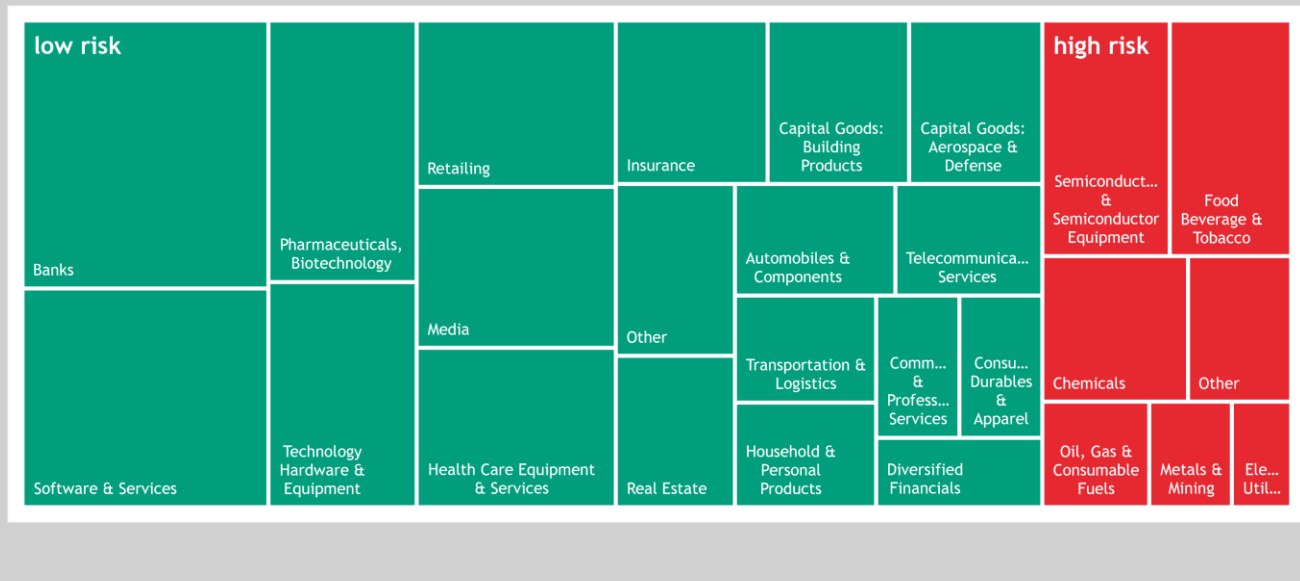
²⁰ OECD (2018). Financing water. Investing in sustainable growth. <https://www.oecd.org/water/Policy-Paper-Financing-Water-Investing-in-Sustainable-Growth.pdf>

Water management in ACTIAM's investment portfolio

ACTIAM has set itself the goal of working towards a water-neutral investment portfolio by 2030. This is a situation in which portfolio companies withdraw no more water than nature can replenish. Companies are expected to reduce their water use as much as possible and compensate any negative impact. The focus is on companies from high-risk sectors operating in high-risk areas. The aggregate footprint of these companies, weighted by their importance in the portfolio, is the primary means of monitoring progress towards the water neutrality goal.

A water risk assessment of the equity portfolio showed that 303 companies, accounting for almost 20% of the invested assets, operate in a high-risk sector (figure 7). On average across the portfolios, this exposure is more than 3% lower than the benchmark. Only 10% of the companies in a high-risk sector, accounting for 2% of the invested assets, generate more than 50% of their turnover in areas with a high risk of water scarcity. The water footprint of both ACTIAM's total equity portfolio and the individual portfolios is lower than that of the benchmark (59,114 litres per €m invested capital versus 88,904 litres). Based on this assessment, ACTIAM has drawn up time-based expectations which companies in the portfolio must meet. [ACTIAM's renewed water strategy focuses primarily on engagement to improve companies' water management](#). Priority is given to the riskiest companies. Companies involved in serious and repeated controversies, as well as those showing insufficient progress in their water management, will ultimately be excluded. As time progresses, the companies must meet stricter requirements. In addition, over time the focus will shift increasingly to sectors and areas with an average level of risk. Finally, ACTIAM aims to invest more in both solutions and compensatory measures, such as land restoration and nature-based solutions. This is why we are also engaging with companies that offer solutions to the water crisis.

Figure 7: Exposure to high-risk sectors



About ACTIAM

ACTIAM stands for: active and passive management, sustainable investment strategies and impact investing. We aim for financial results, social returns and risk management. With our focus on sustainability, we structurally lower the risks and increase the opportunities in our investment portfolios. We serve clients through both funds and mandates; we supply a variety of tailor-made solutions.

For equity investments, our objective is an optimal financial and sustainable return via passive and active solutions. Our equity team has a long-standing history in sustainable investments and realizes a solid performance, both financially and socially. All our equity funds receive no less than four stars in the Morningstar rating (source: Morningstar, September 2021). The ACTIAM Global Equity Impact product also receives four Morningstar globes in the field of sustainability! It is not without reason that we were awarded Winner Lipper Group Awards "Equity Large" in 2019.

We also pursue an active and passive fixed-income policy for our bond investments with far-reaching ESG integration. We succeed in achieving stable long-term results for our clients, over multiple cycles. The ACTIAM Sustainable Euro Bond Fund receives four stars in the Morningstar rating (source: Morningstar, September 2021).

Finally, we are a trendsetter in impact investing. In 2007 and 2008 we launched our first institutional microfinance funds, ACTIAM Institutional Microfinance Fund I and II. Our strength is making investment opportunities scalable in high-impact themes. In 2020, we were voted the best impact investing provider by the readers of Cash magazine and achieved a top score of 51 (out of 62) in a survey conducted by Phenix GEMS.

Find out what our [investment solutions](#) can do for you or go directly to [our funds](#).

ACTIAM manages assets of appr. €22 billion (ultimo September 2021). Our solid (impact) strategies and sound performance track record will help you to achieve your goals. We offer sustainable solutions to insurance companies, pension funds, banks and distribution partners. This is achieved through actively and passively managed investment funds and mandates.

Read more [about ACTIAM](#) on our website.

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