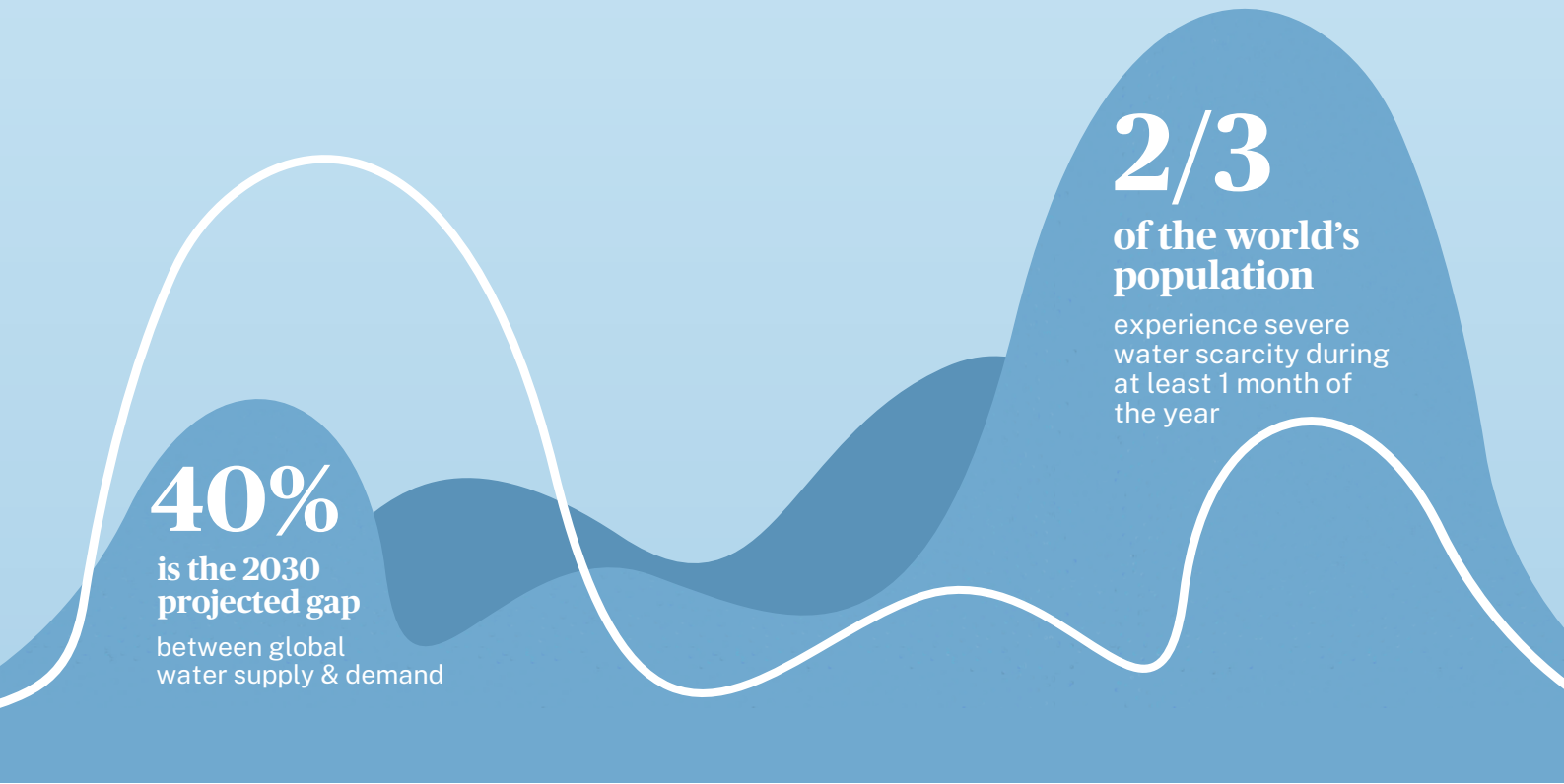
Why should water stewardship go beyond ESG strategy?

March 2023

AXA Climate

Summary



Water is at the center of the climate crisis

World's water resources are facing unprecedented stress because of population growth, economic development, inefficient water management practices, and climate change [1].

This imbalance between water supply and demand has an impact not only on the environment but also on human health, agricultural and industrial productivity, and overall socio-economic development [2].

Industries, particularly those located in regions facing water stress, are under increasing pressure to adopt new approaches that will enable them to reduce their use of local water resources and improve water security.

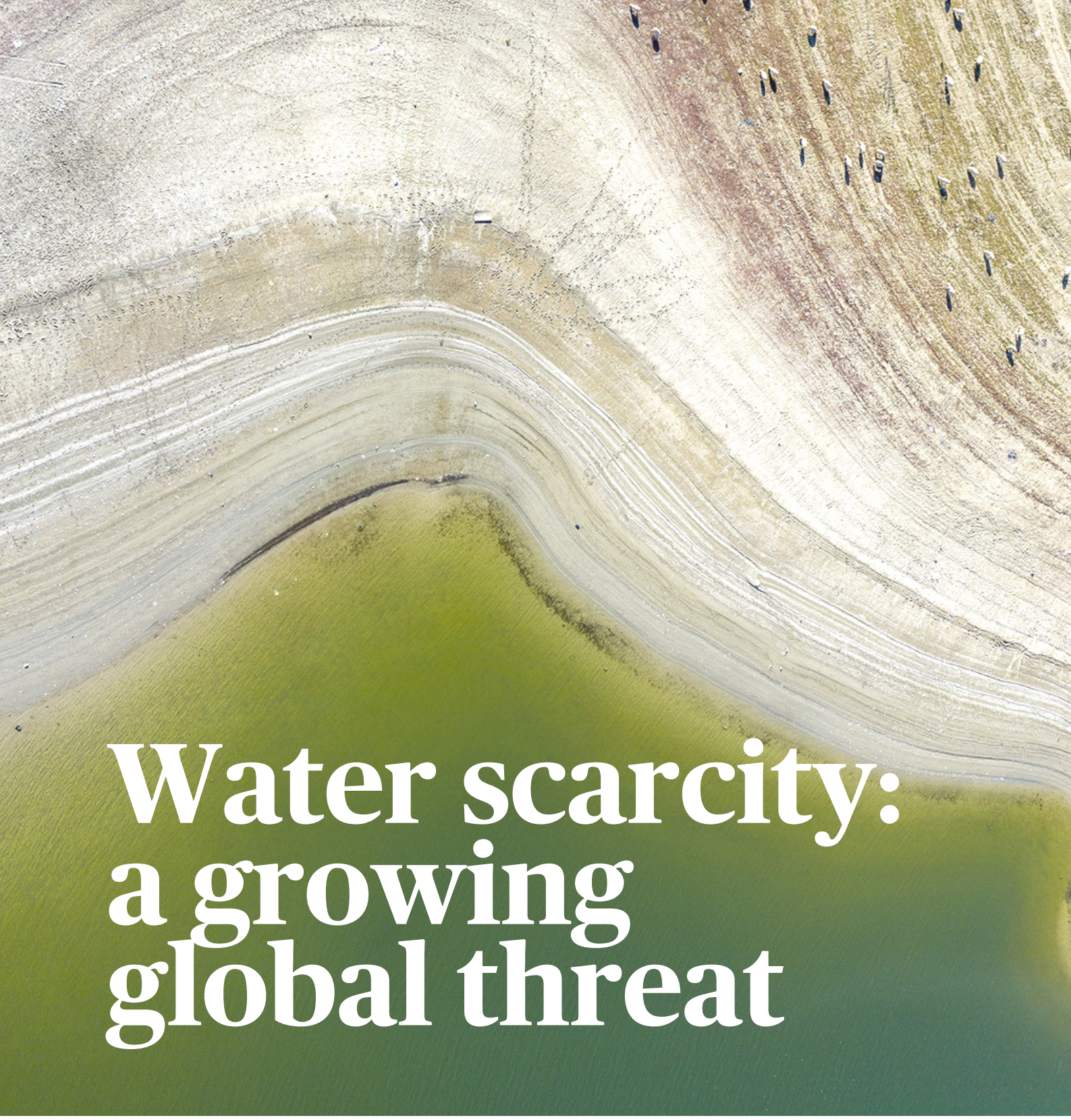
Furthermore, the evolving regulations on water use and wastewater management along with the increasing instances of conflicts with competing water users within their catchment is making it harder for industries to follow a 'business as usual' approach which has worked well for them in the past.

To address these challenges, companies have started incorporating water stewardship in their business strategy to tackle water risks such as physical risks (water availability and water quality), regulatory and reputation risks and ensure water security within their catchment, using an integrated water management approach.

Through water stewardship, organizations have incorporated sustainable water management practices, reducing their use of depleting water resources, enhancing catchment water quality, improving access to Water, Sanitation and Hygiene (WASH) and increasing overall water governance in their catchment area.

In the following article, we will illustrate how water stewardship can help in mitigating water risks for industries and ensure business continuity.

[1] Rozza, J.P., Richter, B.D., Larson, W.M., Redder, T., Vigerstol, K. and Bowen, P., 2013. Corporate water stewardship: Achieving a sustainable balance. J. Mgmt. & Sustainability, 3, p.41.
[2] Global risks 2015 - World Economic Forum. (Available at: https://www3.weforum.org/docs/WEF_Global_Risks_2015_Report15.pdf (Accessed: March 21, 2023).



Water scarcity: a growing global threat

Water scarcity arises when water demand outstrips the available water supply, with the magnitude of concern varying from region to region.

It’s not only surface water resources that are dwindling

The vast majority of the demand for water around the world comes from the agricultural sector which uses approximately 70% of the freshwater we use globally. The rest of the water used is divided between industrial use which accounts for 19% and domestic use, which makes up the balance of 11% [3]. Our supply of freshwater comes from a variety of sources, including rivers, lakes, and reservoirs as well as groundwater which is accessed through underground aquifers.

Water scarcity has been exacerbated in many areas.
By population growth, urbanization and unplanned use of water resources without understanding the impact of water on the socio-economic progress of these areas.

For example, last year in France, EDF reported a decrease in the amount of energy produced from its 28 dams on the Dordogne River, down from the usual 2.6 terawatt hours to just 1.6 terawatt hours in 2022.

This decrease of 38% occurred because 2022 was particularly dry and there were reduced discharges in the rivers [4]. It’s not only surface water resources that are dwindling, some regions are also facing rampant groundwater exploitation.

n. For example, India, which is one of the largest users of groundwater in the world, has identified 18 % of its groundwater blocks as either overexploited or critical. This has increased the risk of business interruption for industries that are dependent on groundwater borewells for their water needs [5].

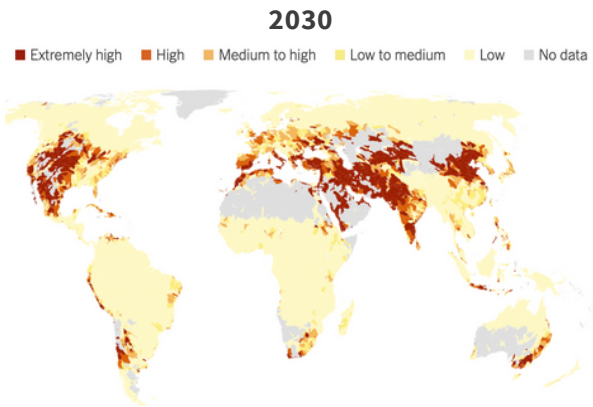


Figure 1: World Water Stress Projection (World Water Institute, 2020)

[3] Water stress: A global problem that's getting worse (2022) Council on Foreign Relations. Council on Foreign Relations. Available at: https://www.cfr.org/backgrounder/water-stress-global-problem-thats-getting-worse
[4] Butler, J.de (2023) À cause de la sécheresse, Les Barrages Edf sur la Dordogne ont produit moins d'électricité, ici, par France Bleu et France 3. France Bleu. Available at: https://www.francebleu.fr/infos/economie-social/a-cause-de-la-secheresse-les-barrages-edf-sur-la-dordogne-ont-produit-moins-d-electricite-5910137
[5] Vats, S. (2022) 14% of India's groundwater assessment units over-exploited, 4% critical, says New Govt Report, ThePrint. Available at: https://theprint.in/india/14-of-indias-groundwater-assessment-units-over-exploited-4-critical-says-new-govt-report/1217090/

By 2050, 3.2 billion people will live in water-scarce areas

In addition to economic and social risks, water scarcity has significant ramifications on nature and biodiversity, especially in areas that are losing their lakes, ponds, and other water resources.

Degrading quality of surface water and groundwater reservoirs, water quality is another critical issue that is affecting the health and wellbeing of both humans and the environment. The quality of water can be compromised by various pollutants such as chemicals, pathogens, and waste materials.

Over 80% of the world's wastewater is released into the environment without adequate treatment and contaminates water sources [6]. This particularly affects industries by increasing their cost of water treatment, escalates exposure to stringent regulations and reduces trust among the stakeholders located within their catchment.

In the future, water-related risks are only expected to increase.
The United Nations predicts that by 2050, 3.2 billion people will live in water-scarce areas compared to 1.9 billion in the early to mid-2010s [7].

This increase in water scarcity will also have a significant impact on the economy. Some agribusinesses in the U.S. forecast between 22% and 40% EBITDA (most widely used measure of profitability) losses due to these risks [8]. Climate change is further exacerbating this problem, impacting all corners of the world which are dependent on the import of agricultural or industrial goods.

As a result, governments and stakeholders are implementing mitigation strategies to protect water resources: integrated water management approach including improved water governance, technological interventions for water conservation and implementing solutions at the scale of the catchment.

[6] Wastewater A Resource that Can Pay Dividends for People, the Environment, and Economies, Says World Bank. Available at: 6. Water and climate change: UN-water. Available at: https://www.unwater.org/water-facts/water-and-climate-change
[7] Water and climate change: UN-water. Available at: https://www.unwater.org/water-facts/water-and-climate-change
[8] Meredith, S. (2021) Why some of the world's biggest companies are increasingly worried about water scarcity, CNBC. CNBC. Available at: https://www.cnbc.com/2021/06/29/water-scarcity-why-some-of-the-worlds-biggest-companies-are-worried.html

Responding to water scarcity

As per AWS, water stewardship is defined as the use of water that is socially and culturally equitable, environmentally sustainable, and economically beneficial, achieved through a stakeholder-inclusive process that includes both site- and catchment-based actions [9].

[9] Water stewardship. UNIDO. Available at: https://www.unido.org/our-focus/safeguarding-environment/resource-efficient-and-low-carbon-industrial-production/industry-and-adaptation/water-stewardship

Understanding your water footprint and the impact you have

Good water stewardship starts with understanding your water footprint and the impact you have on your catchment area.

The first step is to examine direct water use or the water used in industrial processes (within fence or onsite), followed by indirect water use or that related to your inputs production (outside the fence).

As water is a common resource, you should also consider the water usage in your entire catchment area, an area that is drawing upon the same water resources. Water quality is another aspect which should be examined both within the fence as well as in the catchment of water source.

Furthermore, water stewardship involves working with local stakeholders to identify shared water challenges and the impacts they have on vulnerable communities, nature, and biodiversity.

Identifying risks outside the fence including physical, regulatory, reputational and governance and engaging in individual and collective actions that provide protection to the catchment area, benefiting people, the economy, and nature is an essential part of water stewardship [10].

To help combat the threat of water scarcity, more and more companies are taking pledges and building collective approaches.

Companies operating in water-scarce areas can also be subjected to stricter regulations to reduce the pollution load into the water bodies. In India, for example, certain textile and pharmaceutical industries that generate high amounts of wastewater and pollutants are required to implement Zero Liquid Discharge (ZLD) systems to eliminate wastewater discharge into the environment and maximize water use efficiency.

[10] Zhao, H., Qu, S., Guo, S., Zhao, H., Liang, S. and Xu, M., 2019. Virtual water scarcity risk to global trade under climate change. Journal of cleaner production, 230, pp.1013-1026.

Organizations can work to become water positive

These companies are obligated to meet the effluent discharge standards set by the Central Pollution Control Board (CPCB) or the state pollution control boards which increases their capital and operational costs significantly [11].

Several global initiatives and frameworks have also been launched to encourage companies to incorporate water stewardship into their business strategies including the Alliance for Water Stewardship (AWS)[12] and the UN's Global Compact's CEO Water Mandate [13].

The AWS is a global collaboration with members including companies like Nestle, Coca Cola, Audi, and Apple as well as several NGOs and those in the public sector. Members of the AWS are working to adopt a framework for the sustainable use of water, known as the AWS Standard, that aims to promote and reward good water stewardship performance.

The UN CEO Water Mandate is a powerful platform that can be used by members to forge partnerships to address urgent water challenges and to share good practices. It is currently supported by 240 companies including Bayer, Danone, and Suez. Both the AWS and UN CEO Water Mandate offer some of the most prominent guidelines on water stewardship.

In addition, many large companies, including Google and Microsoft, have announced ambitious goals to become water positive by 2030 meaning that they return more water that they consume. The water-positive approach of these companies reflects a growing recognition that water scarcity and water quality are critical issues that can affect their operations, supply chain, and local communities.
nt water resilience actions enacted across different geographies.

[11] Tong, T. and Elimelech, M., 2016. The global rise of zero liquid discharge for wastewater management: drivers, technologies, and future directions. Environmental science & technology, 50(13), pp.6846-6855.
[12] Home (2022) Alliance for Water Stewardship. Available at: https://a4ws.org/
[13] CEO water mandate. CEO Water Mandate - Sign the Business Pledge for Water Stewardship. Available at: https://ceowatermandate.org/

Companies can minimize their water risks and become good water stewards

Following these guidelines can lead to the implementation of different water resilience actions enacted across different geographies. For example, Microsoft has implemented a rainwater collection system and waste treatment plant at their site in Silicon Valley, California, to ensure that 100% of the site's potable water comes from onsite recycled sources [14].

Another great initiative has been realized by PepsiCo, which has collaborated with local farmers within its supply chain to introduce drip irrigation which not only reduces farm water usage but also decreases greenhouse gas emissions by as much as 83% [15].

These initiatives are just some examples of the great ways that companies can minimize their water risks and become good water stewards.

To effectively achieve water positivity goals, companies should adopt water stewardship principles. Water positivity is not solely achieved by reducing water usage; rather, sustainable water management through stewardship principles is key.

By implementing these principles, companies can reduce their water consumption, enhance water quality in their catchment area, contribute to the preservation and restoration of freshwater ecosystems, implement efficient water governance, and increase their resilience to water-related risks.

Water stewardship is also applicable and valuable for agricultural sector due to its higher water demand and can be used to reduce its water usage, improve resilience and protect its operations from water-related risks.

[14] Microsoft will replenish more water than it consumes by 2030 (2020) The Official Microsoft Blog. Available at: https://blogs.microsoft.com/blog/2020/09/21/microsoft-will-replenish-more-water-than-it-consumes-by-2030/
[15] PepsiCo and N-drip partner to provide water-saving, crop-enhancing benefits to farmers around the world (no date) PepsicoUpgrade. Available at: https://www.pepsico.com/our-stories/press-release/pepsico-and-n-drip-partner-to-provide-water-saving-crop-enhancing-benefits-to-fa03162022

A key to build resilience

Water quality and scarcity are global issues that impact everyone including industries, agriculture, people, and environment. These challenges are only expected to worsen due to climate change. Embarking on a water stewardship journey involves asking numerous questions such as: what are my water-related risks? Who are the other water users and their shared water challenges? How will this impact my operations, activities, supply chain, and production? What can I do to secure water for my business? How can I collaborate with the local stakeholders? How do these measures affect my ESG targets?

Water stewardship is an inclusive process formulated to create ownership, transparency and accountability for using, sharing, protecting and conserving water for our present as well as our future. It involves not just individual action but collective cooperation and collaboration to ensure sustainable use of water. Due to the severity of water issue, we are facing, **water stewardship should become a key part of a company's strategy**, not only for an ESG purpose but also to build resilience in the face of climate change.

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