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A nighttime photograph of the Shanghai skyline, featuring the Oriental Pearl Tower and the Bund, with the city lights reflected in the water.

FRESHWATER RISKS & OPPORTUNITIES: AN OVERVIEW AND CALL TO ACTION FOR THE FINANCIAL SECTOR





Imprint

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Authors: Alexis Morgan (WWF Germany)
Contact: Alexis Morgan (WWF Germany), Alexis.Morgan@wwf.de
Acknowledgment: Ariane Laporte-Bisquit, Chris Holmes, Matthias Kopp, Richard Lee, Parisa Shahyari, Juliane Vatter, Philipp Wagnitz
Designed by: Silke Roßbach, mail@silke-rossbach.de
Produced by: Maro Ballach (WWF Germany)
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Contents

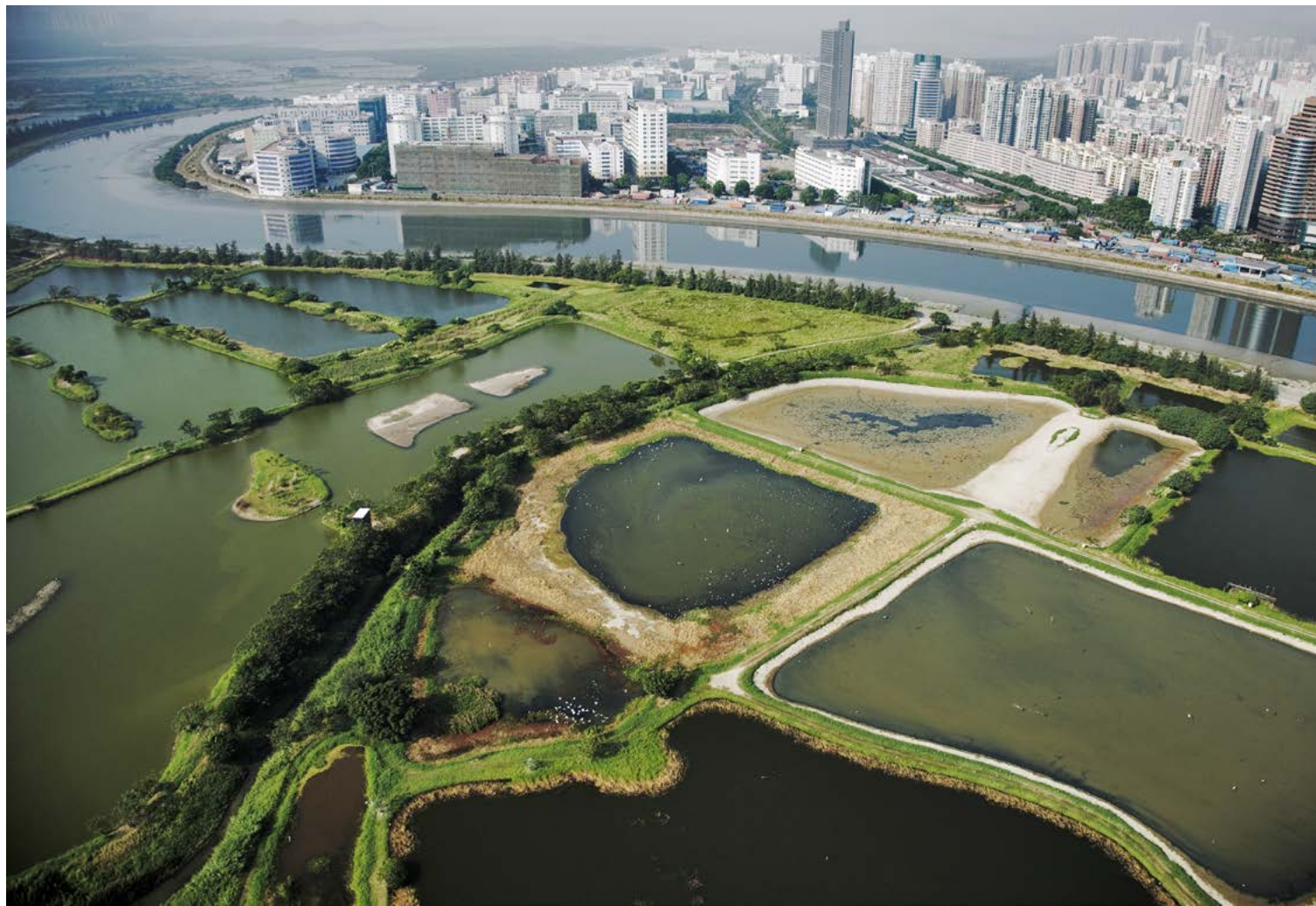
1	Introduction	4
<hr/>		
2	Voluntary and Regulatory measures: TCFD and the EU Action Plan	6
<hr/>		
3	Water as a risk	10
<hr/>		
4	Water as an opportunity	16
<hr/>		
5	Overcoming obstacles to advancing water in finance	18
<hr/>		
6	Recommendations	21

1. Introduction

Over the past decade, water-related risks have consistently emerged near the top of the World Economic Forum's Global Risk Report. The CDP reported corporate losses of over US\$30 billion in 2018 alone due to water risks year after year. From the droughts that materially impacted Europe's economy to the multi-million dollar impacts of water scarcity in cities like Cape Town and Chennai, water issues impact investors around the globe.

This short briefing outlines how water is both a financially material risk and an opportunity for investors.

The briefing acknowledges initiatives by the financial community as well as governments, including the European community, to improve financial reporting and disclosure related to climate change. It stresses that investors need to broaden their assessments and take water challenges far more seriously than they have so far – either through voluntary or regulatory measures. This briefing also highlights how stakeholders engaged at the nexus of water and climate change can play a significant role in strengthening and accelerating the specific work of institutions that have embarked on the road to financial disclosure related to water and climate.



2. Voluntary and Regulatory measures: TCFD and the EU Action Plan

In June 2017, the Task Force on Climate related Financial Disclosure (TCFD) issued its recommendations for consistent, climate-related financial disclosures for investors, lenders, insurers, and other financial services companies. Six months later during the One Planet Summit in Paris, 237 companies (including 150 from the financial sector) with US\$6 trillion in combined market capitalization and US\$82 trillion in assets under management committed to TCFD. Since then, financial regulators and financial sector companies have begun on implementing the TCFD recommendations. Most of the focus has been on scenario analyses and the assumptions that need to be built into those analyses to make them truly helpful for the financial institutions conducting the analysis, as well as for the investors who need to understand what the disclosures mean. TCFD has had a strong focus on scenarios analysis, however, to date, most of the scenario work has focused on carbon transition scenarios and the resulting risks. Under such transition risk assessments, water related risks and implications have not yet emerged as the leading edge of climate impacts.¹

Despite the fact that water issues drive many of climate change's financial impacts, water risks garner nowhere near the same level of awareness of their systemic risk to the financial system as do risks from exposure to fossil fuels.

1 TCFD (2017)

It is our belief that the TCFD framework provides an opportunity to examine water-related risks and opportunities in relation to climate change more closely. Better disclosure of material water issues will provide critical information for investors in companies exposed to water risks in their supply chain, as well as opportunities to invest in business models that contribute to water security and climate resilience.

Another opportunity for increased awareness of water related impacts and risks will arise due to the extension of the EU Taxonomy to Water from 2020. In March 2018, the European Commission released its action plan for financing sustainable growth. The plan is a response to the High-Level Expert Group (HLEG) on Sustainable Finance's recommendations submitted to the Commission on 31 January 2018. The four legislative proposals adopted in May 2018 address several areas of the action plan. A Technical Expert Group (TEG) to support the legislative proposals with more detailed technical elements was also established. The TEG's taxonomy discussion is working on the conditions and framework that will lead to a unified classification system (or taxonomy) on what can be considered environmentally sustainable economic activities.²

This EU sustainable finance taxonomy would do two things. First, since the regulation determines the scope of the taxonomy's application, any proposed regulation may require wide system exposure for review given that the taxonomy currently is restricted to apply only to green financial products.

2 PRI (n.a.)

Second, the TEG would determine critical metrics and threshold conditions that those economic activities would need to comply with to substantially and positively contribute to at least one of the six EU environmental objectives as set out in the regulation:³

- 1) Climate change mitigation;**
- 2) Climate change adaptation;**
- 3) Sustainable use and protection of water and marine resources;**
- 4) Transition to a circular economy, waste prevention and recycling;**
- 5) Pollution prevention and control; and**
- 6) Protection of healthy ecosystems.**

The taxonomy regulation and the first delegated act covering climate change adaptation and mitigation objectives could be adopted by year-end 2019 as the EU negotiation process began in October 2019.

3 European Commission (2018)

As laid-out in the taxonomy regulation, the objective would be to adopt the second and third delegated acts by mid-2021 and mid-2022 respectively – covering the other four environmental objectives. While all of the EU action plan activities address wider sustainability aspects, including freshwater links, the next taxonomy will focus specifically on water-related issues in relation to marine systems and river basins.

In 2019, the Task Force on Climate Related Financial Disclosures (TCFD) issued a status report. The task force noted the relevance of climate related risks to today's financial decisions and the need for greater transparency. It also noted that nearly 800 public and private sector organizations have announced their support for the TCFD, including global financial firms responsible for assets in excess of US\$118 trillion. The Task Force report conveyed that the Network for Greening the Financial System, a group of 36 central banks and supervisors, recognizes climate related risks as a source of financial risk and the importance of central banks and supervisors in ensuring that the financial systems is resilient to such risks. The TCFD observed that while companies are making progress on financial disclosure regarding climate risks, much more needs to be done. The paper highlights that water sector stakeholders can make a significant contribution to strengthening the range and depth of financial disclosure related to water and its intersection with climate matters, most notably under adaptation and resilience.

3. Water as a risk

Water is a dynamic resource, varying in space and time (see Figure 1), and it is a shared resource amongst different types of actors. The scale and nature of water risk exposure will differ depending on two key factors: 1) the asset's location defines the basin water risk (e.g., scarcity, floods, pollution) and 2) the asset's impacts and dependencies on water define the operational water risk (e.g., how water intensive the operation is).⁴ Depending on the nature of their business, different sectors are more, or less, exposed to water risks. In addition to heavy water users – such as the food, beverage, power generation, or mining sectors – that are highly exposed to basin water scarcity risks, those who may consume less water but pollute – such as the textiles or electronics sectors – can also face significant water risks (e.g., regulatory changes on emissions or community conflicts over water quality). Indeed, water can affect issues such as logistics (e.g., barge traffic) for even non-water intensive sectors, along with regulatory and reputational issues, which can materially affect profits and losses.

However, water risk exposure (basin and operational) is only half of the story; water risks have the potential to be managed and mitigated. Often, businesses that are well-prepared to face water risks can outperform their competitors in locations with high basin water risks. These companies represent an excellent investment opportunity, making risk exposure and response information a crucial investment quality measurement for investors.

4 Orr, S. & Pegram, G. C. (2014)

Water risk exposure (basin and operational) can be referred to as the inherent risks, before responses are accounted for (also sometimes referred to as controls), which results in residual water risk, as illustrated in the water risk-response framework in Figure 2. A risk-response approach enables companies and investors to adopt a more nuanced approach to water risk that optimizes risk-reward value creation.

Water is dynamic in both time and space, meaning a regularly updated understanding of asset-level exposure to water risks as well as response is critical to ascertain risk.

With growing amounts of corporate water disclosure data, we are beginning to gain stronger insights into specifically how water risk events trigger different types of financial impacts. First analysis shows that the price of water may be largely irrelevant to bottom line financials, but water has a significant and material ability to affect costs and revenues, making the value of water far beyond what companies pay in terms of tariffs. Operational interruptions, cost of goods sold, permitting delays, and decreased production are all examples of business impacts that are directly affected by water risk events such as droughts, floods, spills, policy shifts, and community water conflicts.

It is high time that investors begin to recognize water risks for what they are: a material issue that needs to be accounted for in the decision making of any modern financial institution.⁵

5 Morgan & Orr (2015)

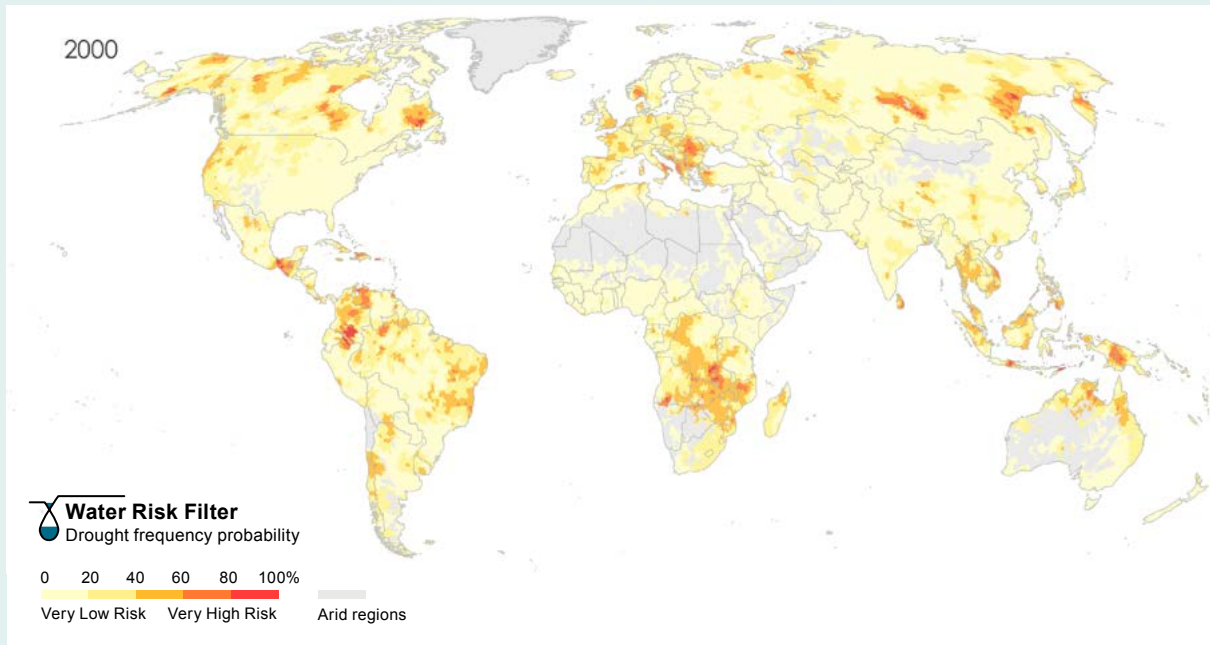


Figure 1: WWF Water Risk Filter map of drought probability in 2000

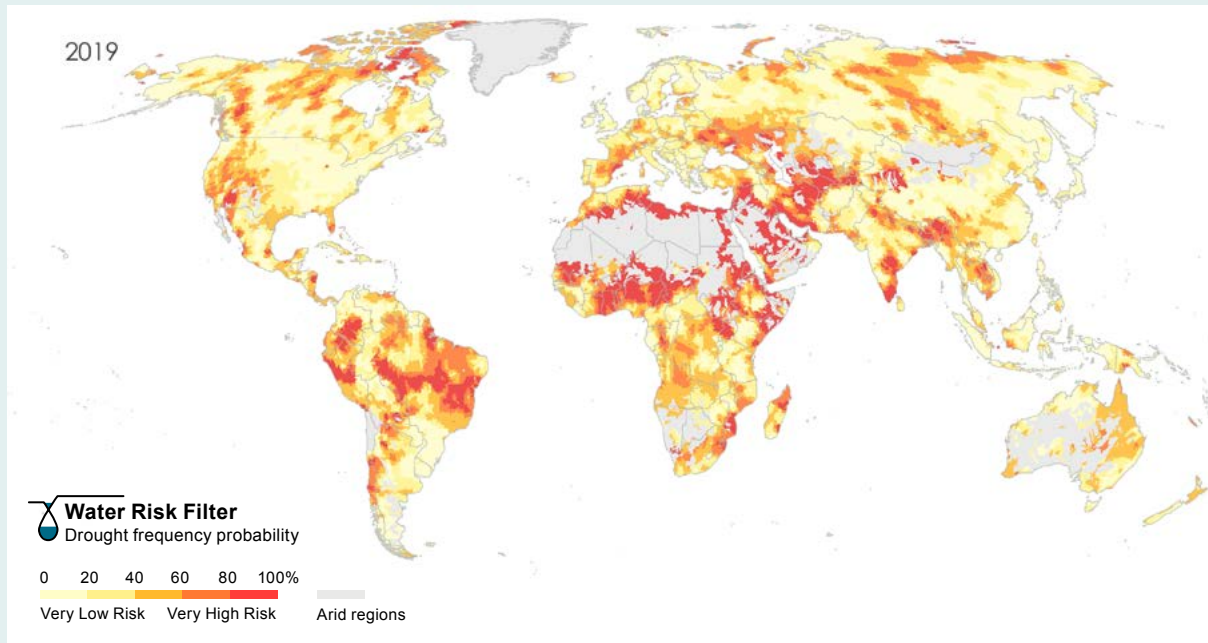


Figure 2: WWF Water Risk Filter map of drought probability in 2019

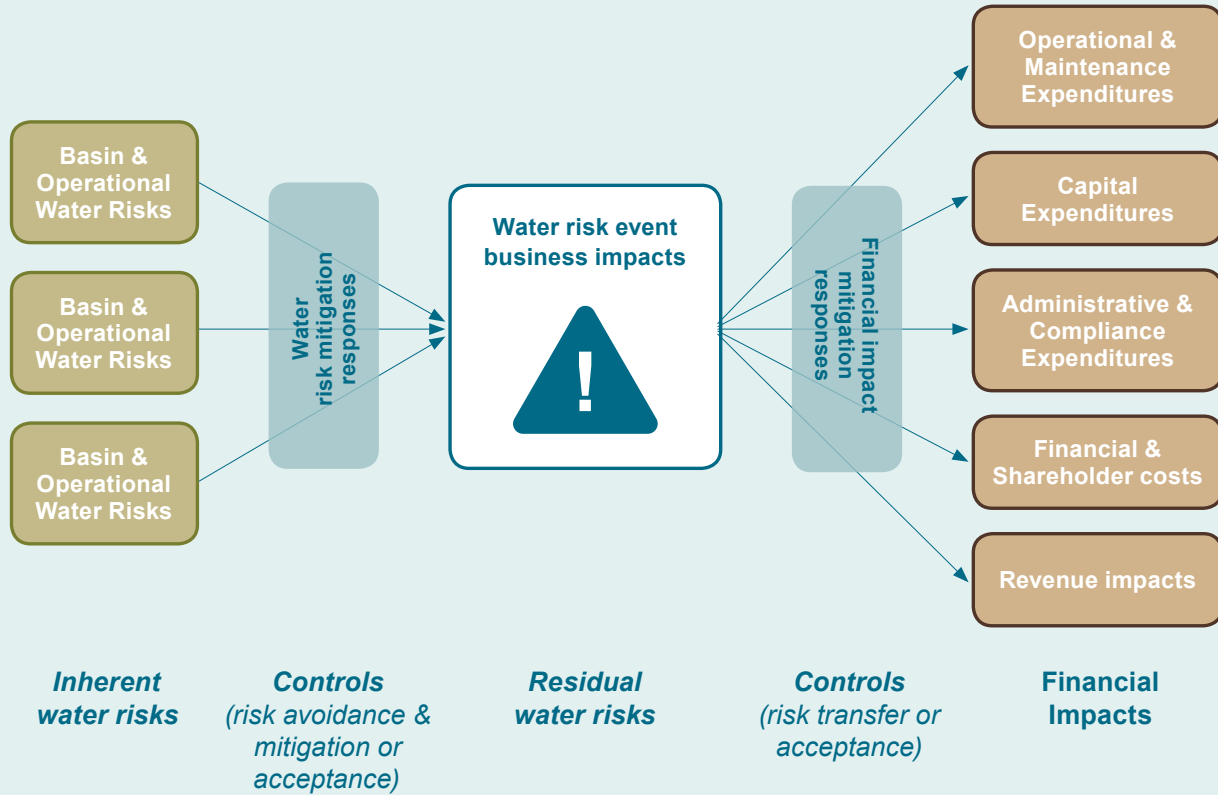


Figure 2: A water risk-response framework

Unpacking Value and Water Risk

Assessing water risk priorities is one issue but calculating the potential financial impacts of water risks is another. Recent years have seen a strong push to better understand how water risks can impact financials, but challenges remain. WWF, in collaboration with Water Foundry, and powered by CDP, will soon launch the Water And ValuE (WAVE) tool. WAVE will draw upon Water Risk Filter data and combine it with high resolution water risk probability data and user financial data to model how water has the ability to affect cash flows for material sites. The proliferation of tools and approaches to assigning financial numbers to water risks in recent years has made it increasingly important to allow different audiences to find the right tool for the job. Accordingly, WWF has just released the Valuing Water Database in the Water Risk Filter, which allows users to identify the best tool(s) for valuing water depending upon their needs.

4. Water as an opportunity

Climate change manifests itself in water; thus, those who manage water properly, will be some of the most resilient businesses and safest havens for both debt and equity. As such, water is not simply an issue of risk, but also one of the largest opportunities for investors if they take the time to understand it. From acting as a force that will differentiate competitors in water stressed regions, to the opportunities that arise from the huge multi-trillion dollar water infrastructure financing gaps already facing water utilities, there are significant opportunities for financiers who are paying attention to water issues – opportunities that are only likely to grow in the coming decades. Water investments can rapidly pay back not just the price of water, but also via energy and chemical savings, and increasing the service life of capital assets.

Water is intricately connected with food, energy, and urban issues. When water is saved, so too is energy, generating considerable paybacks. Indeed, water investments are often overlooked, but can offer great investment opportunities for those who are astute. When universal access to water is provided to women and children, new clients emerge. When hydropower and water-hungry power generation such as coal and nuclear is retired, opportunities to invest in solar and wind emerge. Cities, in particular, will need significant new investments to ensure their resilience in the face of climate instability, which will create a large demand for capital from investors.

For companies (and their investors) who are truly astute, there is an opportunity to create new service offerings and products. One such opportunity is to link institutional brands to purpose – namely: striving to achieve Sustainable Development Goal 6 on Water. In turn, this will create loyalty from customers and provide an increasingly important edge in attracting and retaining the next generation of workers. In a world facing growing challenges to water resources, those focusing on solving the world's water challenges have significant growth potential as investments.

Simply put, water offers numerous opportunities to the financial sector to grow and profit, while simultaneously serving people and the planet.



5. Overcoming obstacles to advance water in finance

Given all that's been outlined in this briefing, what's holding back the flood of finance for water? Several issues:

The price focus

Water is still perceived as a very inexpensive, often free, resource due to the focus on tariff and immediate cost. Understanding the true risk-inclusive cost and hence seeing the value of water requires companies and investors to re-direct their focus.

Insufficient water literacy to see and seize opportunities

The financial sector needs to become much more water literate to truly understand water's value and the opportunity it brings. Access to clean drinking water and sanitation (i.e., water service providers/utilities), improved efficiency, cleaner and circular production, urban urban resilience, and energy savings are all examples of the huge infrastructure financing needs in the freshwater space.

Lack of meaningful transparency in Environmental, Social and Governance (ESG) data

Current approaches to water within mainstream ESG data typically cover water risk and response through singular values. Typically, basin water stress or scarcity is used as the proxy for water risk exposure, while corporate-level water use efficiency is used as the proxy of water risk response.

Such a limited approach provides skewed results and is largely disconnected from the true materiality of these issues. New approaches that better account for an array of basin water risks, operational water risks, and a more nuanced view of responses would provide a much more accurate picture of the performance, risk, and opportunity of investments. Given the existence of freely available water risk tools, such as WWF's Water Risk Filter, WRI's Aqueduct and WBCSD's India Water Tool, combined with the growing availability of asset-level data, there is the capacity to close this gap. It should also be noted that like TCFD carbon-transition scenarios, water should be explored through a scenario lens. To date, ESG data providers have not offered much in the way of scenarios in the water space, nor has TCFD demanded such approaches that look at the impact scenarios (largely borne out through water).

Lack of regulatory approaches on water risk disclosure and reporting

Regulatory requirements for water risk disclosure and reporting for financial institutions are broadly lacking. However, in the past few years, central banks and financial market regulators, especially in Europe, have begun to increase their efforts to address risks (e.g., within the Network on Greening the Financial System) or in the space of integrated reporting. The EU Commission issued its action plan for financing sustainable growth in early 2018, resulting in a number of concrete legislative proposals with the potential to significantly improve the gaps in disclosure. The proposed regulations aim to address a number of existing obstacles:

- **Address the lack of regulatory requirements** to identify and disclose substantial negative financial impacts on investment portfolios, with water as the next focus area after climate.
- **Ensure standardisation and classification of sustainability performance.**
This will be accomplished via the EU taxonomy for sustainability objectives, which focuses on the weakness of current markets to properly assess the environmental performance of economic activities. As with disclosure requirements, water is the next focus area to work on until 2021 following the climate focused discussion in the first phase. Having clear, easy to understand performance data will help markets incorporate environmental performance into capital allocation decisions.
- **Clarify mandates and duties:** regulatory guidance on how to address environmental issues (including precautionary principles) in meeting fiduciary duties has long lacked clarity. The proposed EU action plan addresses this lack of clarity, as well as embedding additional clarity into ESG-related requirements. While the exact details and definitions on water-related impacts are yet to be developed, this promises to improve the regulatory aspects of water and finance.

Furthermore, a number of additional activities have been launched within the EU on relevant areas in the investment process. For instance, within ESG risk disclosures with banks, there is a push for impact transparency with the client advisory process in the investment advice process. Hopefully, these emerging trends are the leading edge of greater regulatory clarity around how water can, and must, be accounted for by both companies and investors given its impacts on both social and financial value.

6 Recommendations

WWF believes that the time is here to demand greater attention to water. Without question, we are facing crises in climate and biodiversity, but it is through freshwater that impacts of climate change most often manifest and it is freshwater biodiversity that is the canary in the coal mine telling us of the troubles we have created. Freshwater species have declined by more than 83% since 1970 – more than any other species type – telling us just how imperiled freshwater resources are.⁶ Freshwater is at a crisis point and without action, we will soon see knock on effects on food, fiber, energy, and ultimately both society and the global economy with the latter already being measurable. With this in mind, WWF is calling upon the financial sector to:

1) Acknowledge the value of water and mobilize finance to shift business

through improved internal processes, governance structures, and offerings. We need to not only shift the way business is being done, but we also need to increase the flow of finance tackling water challenges and see this flow go from billions to trillions, and rapidly. Investing in water can create strong returns for investors, while simultaneously benefitting both people and planet.

2) Request improvements to the manner in which water is handled by ESG data

providers – we need more standardized and nuanced approaches to evaluating water risk and response that harness asset-level data, cover a broader array of basin risks,

account for both operational risk and response, and consider materiality of financial impacts under different scenarios. In short, we need meaningful ESG data to help mobilize finance in the right directions for water. In this regard, we call upon ESG data providers to work with us and others to create more meaningful, actionable, and consistent information on water for investors to harness in their decision making.

3) Urge regulators to strengthen water-related disclosure requirements within mandatory disclosures for companies and relevant financial institutions. The dual impact perspective (outside in/inside out) should become the norm. The EU should use the upcoming review of the Non-Financial Reporting Directive to significantly tighten and sharpen the water risk disclosure aspects of this directive. WWF believes that scenario-based reporting should be made an integral part of reporting requirements. This could be linked to TCFD-related disclosure requirements to ensure that water risks are explicitly considered in climate-related impacts. Publicly listed companies should be a major focus, especially those who are materially exposed to water-related climate impacts due to value chain geographies and operational nature. Furthermore, public institutions should serve as front runners in disclosing water-related impacts, risks, and opportunities in existing portfolios from a dual materiality perspective – both impact on the portfolio (financial risk) and impact of the portfolio on water resources.





Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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BIC: BFSWDE33MNZ

WWF Deutschland

Reinhardtstraße 18

10117 Berlin | Germany

Tel.: +49 (0)30 311 777 700

Fax: +49 (0)30 311 777 888

www.wwf.de