

# CONNECTING THE FUEL TANK AND THE WATER TANK

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The prosperity required to pay pensions relies on people — and the planet. Climate change has put the planet on investor agendas, and although carbon has taken priority to date, water needs to be next.

For the past five years, the World Economic Forum *Global Risks Report* has included “water crises” as a top five global risk in terms of impact in the next 10 years. In 2017, four of the five top risks are all connected to water.

**FIGURE 1. TOP FIVE RISKS IN TERMS OF IMPACT IDENTIFIED IN THE GLOBAL RISKS REPORT 2017**

2013	2014	2015	2016	2017
Systematic financial failure	Fiscal crises	Water crises	Weak climate change response	WMDs
Water supply crisis	Climate change	Infectious diseases	WMDs	Extreme weather
Fiscal imbalances	Water crises	WMDs	Water crises	Natural catastrophes
WMDs	Unemployment or underemployment	Interstate conflict	Involuntary migration	Water crises
Weak climate change response	Critical ICT systems breakdown	Weak climate change response	Energy price shock	Weak climate change response

■ Economic   
 ■ Environmental   
 ■ Geopolitical   
 ■ Societal   
 ■ Technological

Source: World Economic Forum, Global Risks Report, 2017

Climate change is driving a new era in how we view fossil-fuels as our primary energy source, presenting new financial risks and opportunities throughout the entire economy. Unsurprisingly, investors should prioritize those sectors most reliant on fossil-fuel extraction or carbon emissions, and be aware of the potential impact of policy changes on investments in those sectors. However, climate change has many dimensions and overlaps with broader sustainability issues – most importantly, water crises.

The most energy-intensive industry sectors are also the most water-intensive. The prosperity that has relied on the fuel tank is now draining the water tank. Water scarcity (too little water) and, at the other extreme, storms and flooding (too much water), are not always caused by climate change, but such events will only increase as the temperature rises.

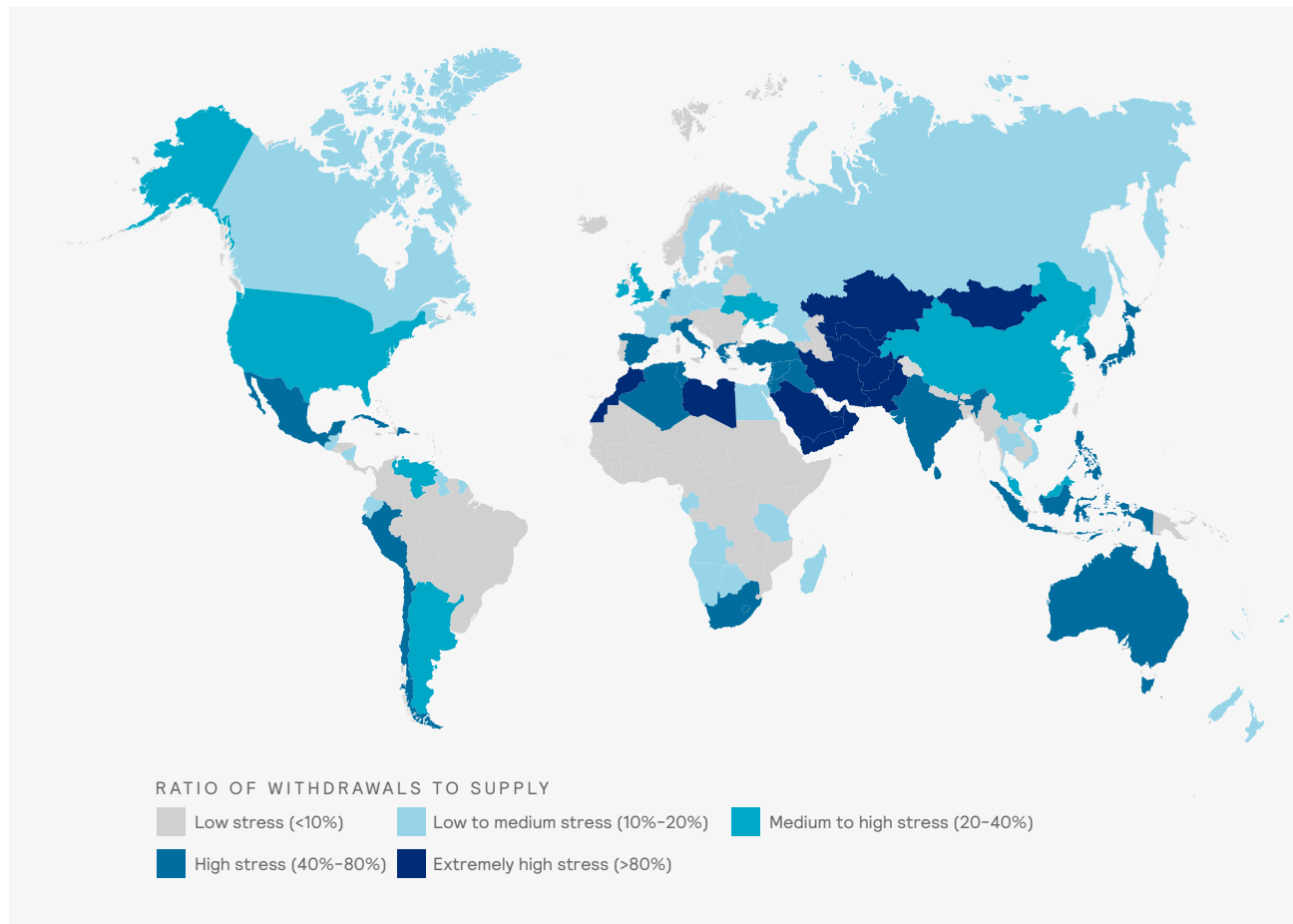
Investors must seek out and apply the new tools that are increasingly becoming available to assess and reduce risk, and exploit new opportunities created by the disruption to the status quo.

### TOO LITTLE WATER: AN INVESTMENT RISK

Too little water is already creating scarcity-related stress across continents. One billion people live in water-scarce regions, and demand is outstripping supply – the shortfall is expected to reach 40% by 2030.<sup>1</sup> Figure 2 shows water-scarcity stress by region.

<sup>1</sup> UNESCO, on behalf of UN-Water. *The United Nations World Water Development Report 2015: Water for a Sustainable World*, 2015, available at <http://unesdoc.unesco.org/images/0023/002318/231823E.pdf>.

FIGURE 2. AREAS OF WATER-SCARCITY STRESS



Source: World Resources Institute

The competition for this increasingly scarce resource will intensify with population growth, increased agriculture and industry demand, water pollution and rainfall variability, all of which will be amplified by climate change. The most concerning issue is the impact on non-renewable water resources; that is, groundwater aquifers. Lakes and rivers renew in relatively short periods of time, but groundwater can take thousands of years to pool in its current location. Alarmingly, this “fossil water” makes up 98% of the world’s fresh-water resources.<sup>2</sup>

In their annual financial statements, most companies currently fail to disclose explicit water impacts; that is, specifically attributing water-related issues to lost production capacity or additional costs to secure fresh water or treat waste water. Yet, in just one example, the World Bank’s Thirsty Energy program reports that in the past five years, more than 50% of the world’s power utility and energy companies have experienced water-related business impacts.<sup>3</sup>

<sup>2</sup> UNESCO, on behalf of UN-Water.

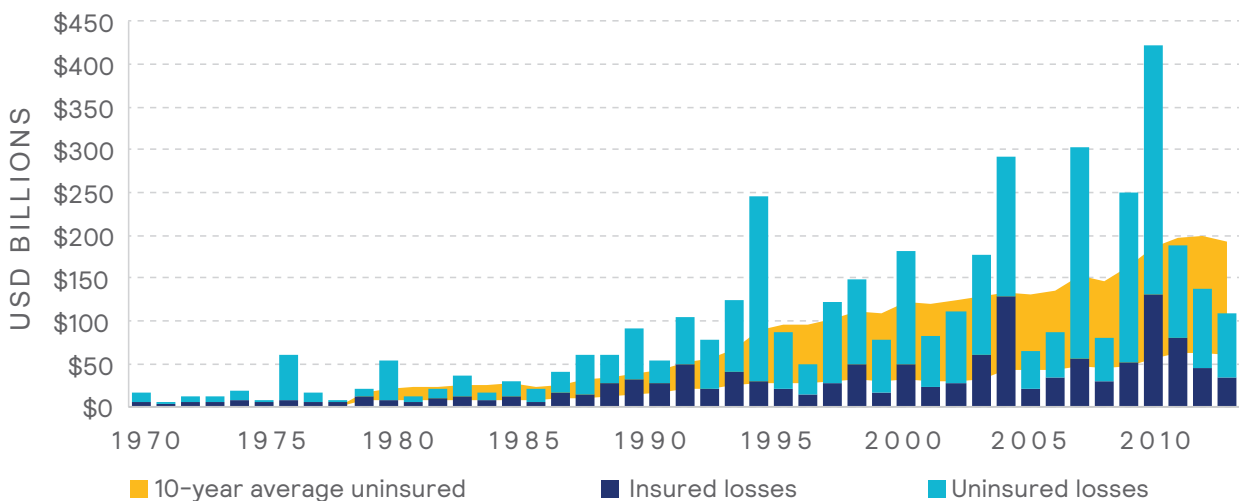
<sup>3</sup> The World Bank. “Thirsty Energy: Securing Energy in a Water-Constrained World,” 29 August 2013, available at <http://www.worldbank.org/en/topic/sustainabledevelopment/brief/water-energy-nexus>.

## TOO MUCH WATER: AN INVESTMENT RISK

At the other extreme, too much water, delivered by severe weather events and flooding, creates a different set of issues for investors. Approximately 21 million people worldwide could be affected by river floods each year.<sup>4</sup> Australia, France, India, the UK, and North and South America have experienced destructive storms and hurricanes in recent years; Hurricane Matthew is just one recent example.<sup>5</sup> The incidence of such events is expected to rise as temperatures do. The immediate impacts of severe weather events – the casualties, evacuations, lost power and damaged infrastructure – are familiar images reported by the media, but the economic impacts can last long after the headlines and flood waters have subsided.

Immediate insurance costs – often millions or billions of dollars – do make the headlines, but what about the uninsured gaps? This is a significant, growing and, currently, poorly addressed issue for investors, particularly as real asset values rise. Research conducted by Swiss Re illustrates the growing gap between insured losses and total economic losses (see Figure 3).

**FIGURE 3. NATURAL CATASTROPHE LOSSES: INSURED VERSUS UNINSURED LOSSES, 1975–2014**



Source: Swiss Re Economic Research & Consulting and Cat Perils

## ASSESSING AND REDUCING ENVIRONMENTAL INVESTMENT RISKS

The same investment principles apply to environmental risks like carbon and water as apply to other portfolio risks: assess the risk, reduce the risk and seek out new opportunities created by the disruption to the status quo. For those investors directly assessing companies, the company water disclosures sought by the CDP (previously known as the Carbon Disclosure Project), expanding on its original carbon origins, are an important and ever-growing source of information. We recommend that investors consider reviewing the CDP's November 2016 updates on water.<sup>6</sup> Investors can also access tools that assess water stress by company location for equities and corporate bonds.<sup>7</sup> Geo-mapping tools like those used by insurers for natural-catastrophe modelling also enable investors to assess asset vulnerability by specific location and identify any uninsured gaps.

<sup>4</sup> World Resources Institute. "Water: Mapping, Measuring and Mitigating Global Water Challenges," 2015, available at <https://www.wri.org/our-work/topics/water>.

<sup>5</sup> NASA. "Matthew (Atlantic Ocean): NASA Adds Up Deadly Hurricane Matthew's Total Rainfall," 13 October 2016, available at <https://www.nasa.gov/feature/goddard/2016/matthew-atlantic-ocean>.

<sup>6</sup> CDP. *Thirsty Business: Why Water Is Vital to Climate Action*, 2016, available at <https://www.cdp.net/en/water>.

<sup>7</sup> World Business Council for Sustainable Development. *Natural Capital Protocol Toolkit*, 2017, available at <https://www.naturalcapitaltoolkit.org>.

Asset owners and managers that already have established processes to integrate environmental, social and corporate governance (ESG) factors into the investment process are more likely to include water in their risk assessments – but don't assume, ask questions. Are all available risk assessment tools being used? Is there a framework for policy and technology developments, together with resource availability and physical impacts (too little or too much water)?

Risk is, however, not the only concern – returns may result from the opportunities that water demands create in infrastructure (pipes, desalination and flood defenses) and technology (filtration, disinfection, metering and testing), among other areas. The McKinsey Global Institute estimates that US\$7.5 trillion in water-related infrastructure investment will be required between 2016 and 2030 – more than what is estimated for ports, airports and railways combined.<sup>8</sup> (Note: This figure now excludes equipment spending, which was included in the 2013 estimate of US\$12 trillion over the 18 years to 2030.)

Investors can achieve exposure to these opportunities by making an allocation to a strategy solely focused on water, or to a more diversified fund for which water is one part of the idea generation, along with broad climate change and sustainability considerations. Equities or private markets (private equity, infrastructure, agriculture, timber, etc.) are the most likely starting points.

## CONCLUSION

Investors can too often forget about the planet in their temperature-controlled offices. But the temperature is changing, and investors would benefit from stepping outside more often and asking new questions about how our prosperity relies on the planet. Investors must improve the way they assess and address multiple environmental risks throughout the decision-making process, to ensure a resource as fundamental as water isn't missing from their equations.

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## ABOUT THE AUTHOR



Jillian Reid is a principal in Mercer's Responsible Investment team, based in London. She is responsible for advising institutional investors, including pension funds, endowments and Mercer's Delegated Solutions, on integrating ESG factors, sustainability trends, climate change issues and stewardship throughout the investment process. Jillian was project manager and co-author of Mercer's 2015 climate-change report, *Investing in a Time of Climate Change*.

<sup>8</sup> McKinsey & Company, Bridging Global Infrastructure Gaps, 2016, available at <http://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/bridging-global-infrastructure-gaps>.