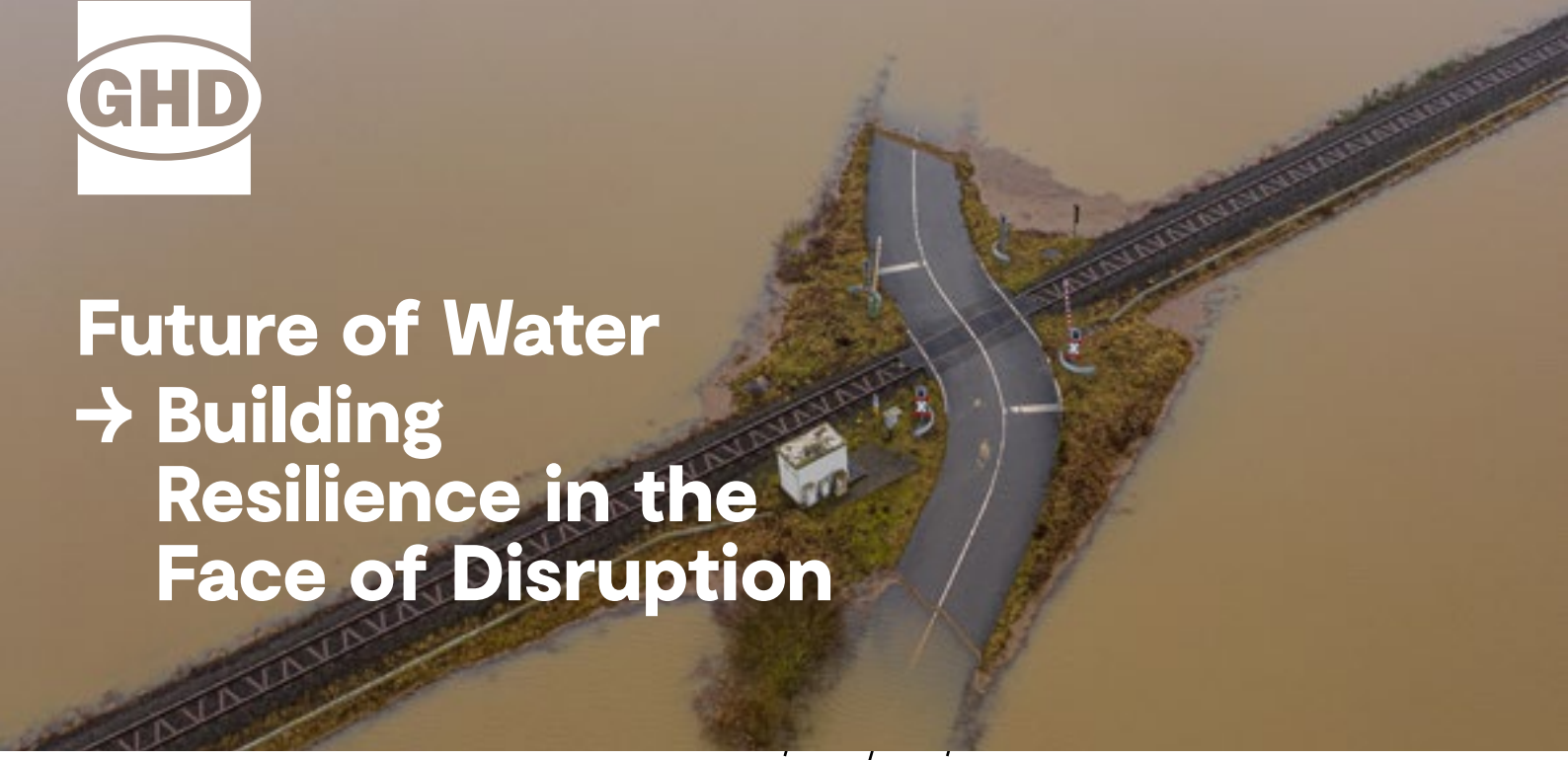


Future of Water → Building Resilience in the Face of Disruption

The challenge

There are several long-term risks on the horizon

Water scarcity will put pressure on food supply as about **70%** **of the freshwater used**, is used for agriculture [1]

Nearly **700 million people** could be **displaced** by **intense water scarcity** [2]

Around **2 billion people** worldwide don't have access to **safe drinking water** [3]

Weather and water-related hazards severely affected nearly [4] **50 million people**

2021

Today

2030

By 2040, global water demand is projected to **exceed sustainable water supplies** by **40%** leading to increased competition for water resources [6]

2040

6 billion people will likely suffer from **clean water scarcity** [5]

2050

Between 2022 and 2030 alone water risk could **cost global economies** an estimated total of [7]

$1.3 trillion

By 2050, **manufacturing and distribution sector** will be the most heavily affected by increasing water risk – facing **total output losses of over** [8]

$4 trillion

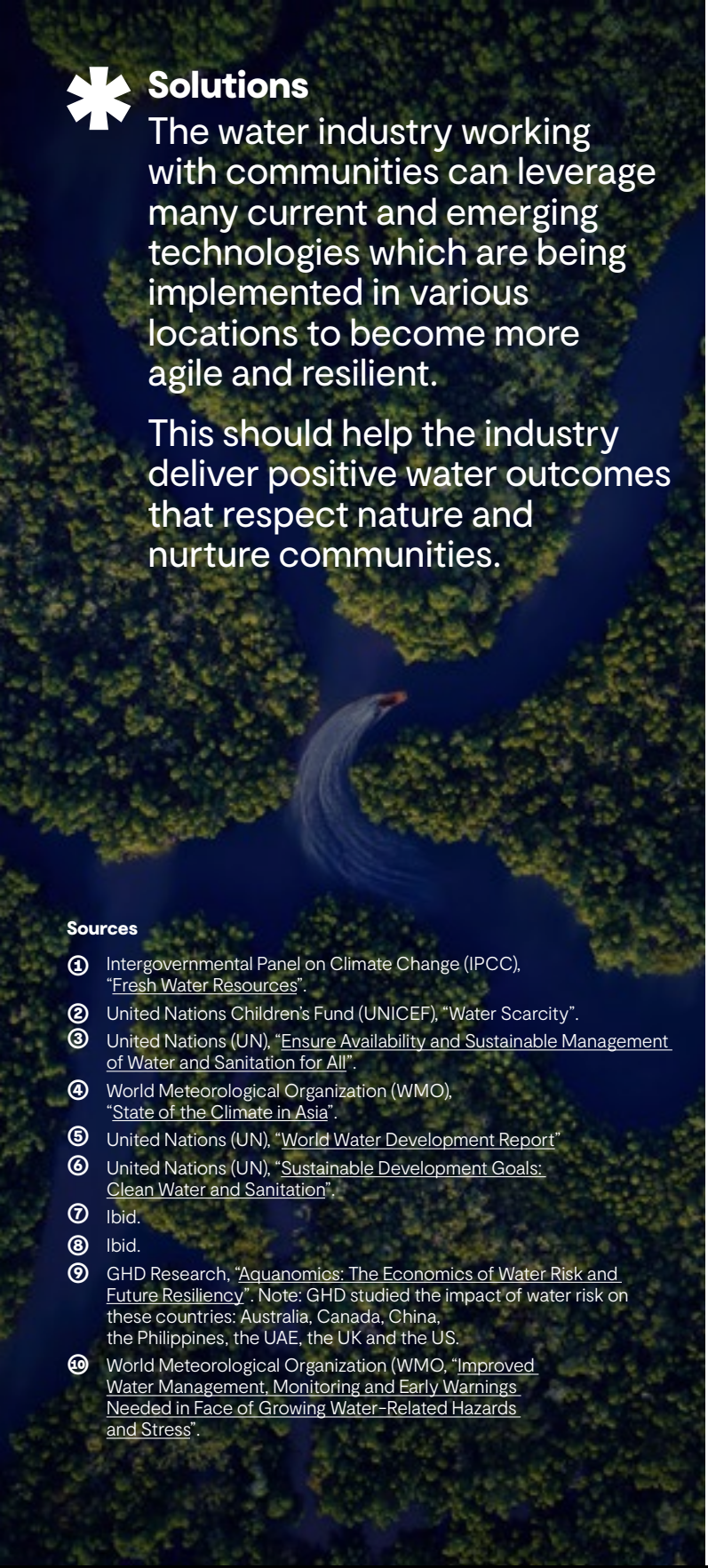
$5.6 trillion to global GDP

Between 2022 and 2050, **droughts, floods, and storms** could result in a total loss of [9]

Since 2000, **flood-related disasters** have **risen by** **134%** compared to the two previous decades [10]

100%

Find out more at ghd.com/FutureofWater



Solutions

The water industry working with communities can leverage many current and emerging technologies which are being implemented in various locations to become more agile and resilient.

This should help the industry deliver positive water outcomes that respect nature and nurture communities.

01 Invest in **new technologies and early warning systems** for floods, droughts and other water-related hazards that could significantly reduce disaster risk.

02 Invest in and leverage **technological advancements and climate-smart agriculture** such as drip irrigation to lower the pressure on freshwater reserves and supplies.

03 **Reduce water use** through various measures such as installing low-flow fixtures, fixing leaks, and using water-efficient appliances.

04 **Treat and reuse wastewater** for potable and non-potable purposes such as industrial processes to reduce demand for freshwater resources.

05 Adopt **climate-resilient water supply and sanitation systems** to save the lives of millions of people every year.

06 **Protect and restore natural ecosystems** such as forests and wetlands by regulating the flow of water and preventing erosion to improve water quality and quantity.

07 **Use technology to remove salt and other impurities** from seawater or brackish water to provide a new source of freshwater for coastal regions.

08 **Capture and store rainwater for later use** to help alleviate water scarcity and reduce demand on other water sources.

09 **Upgrade water infrastructure** such as pipelines, treatment plants, and storage facilities to improve the efficiency and reliability of water supply systems.

10 **Build resilience** by focusing on blue-green infrastructure and distributed systems strategies to boost carbon storage and reduce the risk of flooding.

Sources

1. Intergovernmental Panel on Climate Change (IPCC), "Fresh Water Resources".
2. United Nations Children's Fund (UNICEF), "Water Scarcity".
3. United Nations (UN), "Ensure Availability and Sustainable Management of Water and Sanitation for All".
4. World Meteorological Organization (WMO), "State of the Climate in Asia".
5. United Nations (UN), "World Water Development Report"
6. United Nations (UN), "Sustainable Development Goals: Clean Water and Sanitation".
7. Ibid.
8. Ibid.
9. GHD Research, "Aquanomics: The Economics of Water Risk and Future Resiliency". Note: GHD studied the impact of water risk on these countries: Australia, Canada, China, the Philippines, the UAE, the UK and the US.
10. World Meteorological Organization (WMO, "Improved Water Management, Monitoring and Early Warnings Needed in Face of Growing Water-Related Hazards and Stress".

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Our philosophy

It's time to move away from treating water as a commodity to be controlled to instead, recognizing its intrinsic value as a natural, balanced cycle. To shift to integrated, system-wide solutions, embracing a broader understanding of water's whole, circular picture. To combine engineering and artistry — inventive approaches, original ideas — to deliver truly elegant outcomes.

That's where GHD comes in; where we can make a meaningful difference, together with our clients. And that's where the Future of Water lies; a future that's ours for the taking.

→ The Power of Commitment