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Tackling trade-related water risks

How importing countries can
address water stress from global
commodity production

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Summary

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- The dependence of Global North countries on water-intensive imported goods – such as food, textiles and minerals – is driving water insecurity in less developed parts of the world. At least half of the water used to produce these goods comes from areas facing moderate to severe water scarcity, mostly in the Global South. Addressing the inequity and unsustainability of this trade is urgent from both human security and supply chain perspectives.
 - The production of traded commodities worldwide uses an estimated 30 per cent of freshwater withdrawals, and large, water-intensive export sectors often cause pollutive waste streams. In many regions, these economic activities increasingly compete with local needs, especially in the context of drought and extreme weather events.
 - At present, there is no consumer labelling to show the effects that a given retail product has on water, and few importer-country legislative options or regulations that positively influence more sustainable water use at production sites.
 - However, this issue is gaining attention, with attempts by actors – such as the CDP, the Taskforce on Nature-related Financial Disclosures (TNFD), and the International Sustainability Standards Board (ISSB) – to develop a global baseline for reporting on climate and nature-related risks, and new legislation covering companies operating in importer jurisdictions, both in the UK and the EU.
 - This paper presents case studies of Morocco–EU and Malawi–UK trade, which demonstrate opportunities to boost sustainable and fair use of water in production, including company disclosures, due diligence and market access standards. For example:
 - In the case of Morocco–EU trade, new legislation in the form of the EU’s Corporate Sustainability Reporting Directive (CSRD) requires importing companies to report on trade impacts of food, fertilizer, textiles and green hydrogen production on local water resources. The accompanying Corporate Sustainability Due Diligence Directive (CSDDD) will add potential for enforcement measures against large companies.
 - In the case of Malawi–UK trade, the UK’s Environment Act does not specifically address water and lacks enforcement measures. Further amendments to the act could strengthen its capacity to address water scarcity in high-risk areas that produce goods such as tea, sugar, cocoa and tobacco.

Tackling trade-related water risks

How importing countries can address water stress from global commodity production

- For major importing countries, current patterns of trade are in conflict not only with their commitments to the Sustainable Development Goals (SDGs) and climate resilience, but also with their domestic food and energy security objectives.
- With power dynamics between sellers and buyers being far from equal, importer countries have an opportunity to push for more sustainable approaches to water. This will require building trust with trade partners, and offering financing and capacity-building support to enable smaller producers to adhere to changes in policy.
- Both importers and exporters of water-intensive products share an interest in promoting multilateral action that can support a fair playing field and avoid 'leakage' – companies shifting production to areas with weaker water controls. World Trade Organization (WTO) initiatives can play a critical role in supporting transparency and compliance.

01

Introduction

Companies, investors and governments are increasingly concerned about the impact of trade on water sustainability and security. Understanding these links is crucial for water security, climate resilience and the Sustainable Development Goals.

Around two billion people live in water-stressed countries,¹ where water usage exceeds natural replenishment rates and there is a lack of access to clean water and sanitation. This has detrimental impacts on the food, energy and ecosystems that support human life. At the same time, climate change impacts, such as floods and droughts, are weakening infrastructure and making it even more challenging to sustainably manage water.² Strains on these resources has the potential to lead to tensions over transboundary waters and even intercommunal conflicts, as has occurred in Iraq, Somalia and Mexico, for example.³ Water stress that leads to instability and migration can also contribute in part to creating the conditions for civil unrest – for example, researchers have noted the role of water stress in the run up to Syria’s 2011 uprisings.⁴

The management of water is complex due to the significant trade-offs between its different uses, particularly for food and energy. Using water for hydropower or to cool power plants means that less is available to irrigate crops.⁵ An additional

¹ WHO (2023), 'Fact Sheet: Drinking Water', <https://www.who.int/news-room/fact-sheets/detail/drinking-water>.
² Wang-Erlandsson, L. et al. (2022), 'A planetary boundary for green water', *Nature Reviews Earth & Environment*, 3, pp. 380–392, <https://doi.org/10.1038/s43017-022-00287-8>.

³ Al-Bayaa, A. and Mashhad, M. (2023), 'Water Scarcity and Environmental Peacebuilding: A Lens on Southern Iraq', e-International Relations, <https://www.e-ir.info/2023/05/18/water-scarcity-and-environmental-peacebuilding-a-lens-on-southern-iraq>; Center for Naval Analyses (2017), 'The Role of Water Stress in Instability and Conflict', https://www.cna.org/archive/CNA_Files/pdf/crm-2017-u-016532-final.pdf; Kinard, J. (2023), 'Water Shortages Threaten to Increase Violence and Disappearances in Mexico', *Scientific American*, 15 February 2023, <https://www.scientificamerican.com/article/water-shortages-threaten-to-increase-violence-and-disappearances-in-mexico>.

⁴ Van der Heijden, K., Otto, B. and Maddocks, A. (2015), 'Beyond Conflict, Water Stress Contributed to Europe's Migration Crisis', World Resources Institute, 3 November 2015, <https://www.wri.org/insights/beyond-conflict-water-stress-contributed-europes-migration-crisis>; De Châtel, F. (2014), 'The Role of Drought and Climate Change in the Syrian Uprising: Untangling the Triggers of the Revolution', *Middle Eastern Studies*, 50(4), pp. 521–535, <https://doi.org/10.1080/00263206.2013.850076>; Center for Naval Analyses (2017), 'The Role of Water Stress in Instability and Conflict'.

⁵ Conway, D. et al. (2015), 'Climate and southern Africa's water–energy–food nexus', *Nature Climate Change*, 5, pp. 837–846, <https://doi.org/10.1038/nclimate2735>.

complication is that water is needed to maintain and restore healthy ecosystems that can bolster climate resilience. However, progress has been slow in building these environmental requirements into national planning or transboundary water agreements.

As global consumption of internationally traded products has increased, an additional trade-off has emerged for water-stressed countries: exports that contribute to GDP, which bring in foreign currency to pay for imports and debt servicing, also endanger local water security. The trade in embodied or ‘virtual’ water – the amount of water required to produce a good – has increased in recent decades.⁶

Studies estimate that virtual water trade may account for around 30 per cent of freshwater withdrawals worldwide⁷ – and much of this is taking place in areas of growing water stress. A 2023 study of 14 high-income Global North countries and the EU found high levels of dependence on external water use to meet domestic consumption demand (40–80 per cent). Of particular concern to both exporters and importers, the study found that 50 per cent of the blue water footprint (see Box 1) of these goods comes from areas facing moderate to severe water scarcity.⁸

Box 1. What is a product’s water footprint?

A product’s ‘water footprint’ differs from its volume of virtual water and can be measured in different ways. In addition to indicating the amount of water used in the production process, a water footprint can show which areas have been affected by water use. The water footprint can also show the type of water used, for example, whether it is ‘green’, ‘blue’ or ‘grey’, thereby indicating the extent of detrimental impact:

- Green water footprint – use of rainwater stored as soil moisture and consumed through plants for human use (the green footprint has the least detrimental impact);
- Blue water footprint – water abstracted from surface or ground water and not returned to the water source (evaporated or contained within the product); and
- Grey water footprint – the volume of water needed to dilute contaminants released into water courses as a result of production.⁹

⁶ D’Odonico, P. et al. (2019), ‘Global virtual water trade and the hydrological cycle: patterns, drivers, and socio-environmental impacts’, *Environmental Research Letters*, 14(5), p. 053001, <https://doi.org/10.1088/1748-9326/ab05f4>.

⁷ According to a study that uses 2014 economic data and an embodiment accounting model that assesses interregional virtual water transfers. See Wu, X. D. et al. (2019), ‘Global socio-hydrology: an overview of virtual water use by the world economy from source of exploitation to sink of final consumption’, *Journal of Hydrology*, 573, pp. 794–810, <https://doi.org/10.1016/j.jhydrol.2019.03.080>.

⁸ Chapagain, A. K. and Mekonnen, M. M. (2023), *Towards Fair Water Footprints: Understanding the water footprints of the Global North and dependency on water use within the Global South*, Water Witness International, https://static1.squarespace.com/static/5baa3175bfba3e44386d68a5/t/6418884abd3cae57ce8be632/1679329357074/Towards+Fair+Water+Footprints+-+a+briefing+note+on+the+updated+global+WF+analysis+for+2000-2020_FINAL.pdf.

⁹ Summarized based on Hoekstra, A. Y. and Chapagain, A. K. (2011), *Globalization of water: Sharing the planet’s freshwater resources*, Oxford, UK: Blackwell Publishing.

The Glasgow Declaration for Fair Water Footprints (FWF), launched at COP26 in 2021, strengthened and broadened the definition of what fair use and allocation of water at the source of production should look like. At the time of writing, this evolving partnership of supplier and consumer governments, industry, finance and civil society actors posits five characteristics of a fair, sustainable and resilient water footprint. These focus on the context in which water is used and its effects on workers and surrounding communities in a given sector. FWF defines a fair water footprint as entailing the following in the production process:

- Zero water pollution;
- Sustainable and equitable withdrawal and water use;
- Full access to safe water, sanitation and hygiene for workers;
- Working with and protecting nature; and
- Planning for droughts and floods.

In many countries, freshwater sources are being depleted faster than their rate of replenishment. Industry and agricultural outflows often go untreated, leading to the discharge of pollutants into rivers and further damage to ecosystems and livelihoods that depend on these resources. This environmental damage is extremely expensive to clean up. In China, where agricultural and industrial production has led to large-scale water pollution, the government spends billions of dollars each year on water clean-up projects.¹⁰

In places where foreign investment and jobs are a priority, governments may lack incentives to properly regulate or price water, or even to impose penalties for water pollution. Production and trade of key commodities – agricultural products, textiles and minerals – are the main drivers of unsustainable water use. While increased exports boost economic growth and poverty alleviation, for example through job creation, their production can hinder progress on some Sustainable Development Goals (SDGs), such as access to water. Over time, unsustainable use of water will also impinge on the export sectors themselves. As climate change influences hydrological cycles, increasing water scarcity and management challenges in some regions will constrain production capacity or reduce profitability.

Agricultural products

Agricultural goods are a crucial part of agri-food systems and the global economy, with trade of such goods worth \$1.75 trillion in 2021.¹¹ Agriculture is highly water-intensive and has the largest water footprint, in terms of

¹⁰ China Power Team (2020), 'How Does Water Security Affect China's Development?', <https://chinapower.csis.org/china-water-security/#:~:text=Water%20pollution%20carries%20serious%20economic,to%20higher%20rates%20of%20cancer>; Stanway, D. (2013), 'After China's multibillion-dollar cleanup, water still unfit to drink', Reuters, 20 February 2013, <https://www.reuters.com/article/china-pollution-water/after-chinas-multibillion-dollar-cleanup-water-still-unfit-to-drink-idUSL4N0B713D20130220>.

¹¹ FAO (2022), 'Trade of agricultural commodities: 2005–2021', <https://www.fao.org/3/cc3750en/cc3750en.pdf>.

detrimental impact on water sources (see Box 1), among the sectors considered here. Meat production, especially beef, accounts for the biggest proportion of this footprint, and growing global meat consumption is expected to increase future demand for water. Six crops – wheat, rice, cotton, sugar cane, fodder and maize – dominate water-intensive and unsustainable food production.¹² According to recent assessments, international crop trade accounts for around 15 per cent of unsustainable global water consumption, and that figure is increasing each year.

The same analysis shows that the production of food exports contributes to more than 30 per cent of unsustainable irrigation practices in many countries including Mexico, Spain, Turkmenistan, South Africa, Morocco and Australia.¹³ In Peru, researchers have found that the international markets for ‘high-value and water-hungry crops’, such as asparagus and avocados, exacerbated water scarcity following the introduction of the Andean Trade Preference Act, which reduced tariff barriers.¹⁴ In Spain, excessive abstraction of groundwater for strawberry cultivation has caused severe environmental damage to biodiversity, breaking EU law (under directives on both water and natural habitats), and requiring the government to take restorative measures.¹⁵

The new European Environmental Crimes Directive, expected to be incorporated into member state law in 2026, will make such illegal water depletion as well as pollution punishable at the company level with prison sentences and fines.¹⁶ There is not yet a mechanism to address such offenses at the international level. Trade in energy-related crops such as fuelwood and biodiesel has rapidly increased in the past decade, and represents up to 9 per cent of the world’s total trade in virtual water.¹⁷

Textiles

World trade in textiles has grown rapidly over the past few decades, and the market is now worth \$882 billion a year.¹⁸ Raw materials, such as cotton, used to create textiles are water-intensive to grow. WWF estimates that these pre-processed raw materials account for 65 per cent of the water consumed in the textiles value chain.¹⁹ Beyond water consumption, processing materials into fabrics

¹² Mekonnen, M. M. and Gerbens-Leenes, W. (2020), ‘The water footprint of global food production’, *Water*, 12(10), p. 2696, <https://doi.org/10.3390/w12102696>.

¹³ Rosa, L. et al. (2019), ‘Global unsustainable virtual water flows in agricultural trade’, *Environmental Research Letters*, 14(11), p. 114001, <https://doi.org/10.1088/1748-9326/ab4bfc>.

¹⁴ Lashkari, A., Irannezhad, M., Liu, J. and Schulthess, U. (2022), ‘Cascading socio-environmental sustainability risks of agricultural export miracle in Peru’, *Environmental Sustainability*, 5(2), pp. 255–259, <https://doi.org/10.1007/s42398-022-00233-w>.

¹⁵ Judgment of the Court (First Chamber) of 24 June 2021, European Commission v Kingdom of Spain, Document 62019CJ0559, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62019CJ0559>.

¹⁶ European Parliament (2024), ‘Environmental Crimes: MEPs adopt extended list of offences and sanctions’, press release, 27 February 2024, <https://www.europarl.europa.eu/news/en/press-room/20240223IPR18075/environmental-crimes-meps-adopt-extended-list-of-offences-and-sanctions>.

¹⁷ In this paper, fuelwood refers specifically to internationally traded wood between major (mostly developed) countries, such as the UK importing wood from the US. See Peer, R. and Chini, C. (2020), ‘An integrated assessment of the global virtual water trade network of energy’, *Environmental Research Letters*, 15(11), p. 224015, <https://doi.org/10.1088/1748-9326/abbbb0>.

¹⁸ OEC (2023), ‘Textiles’, <https://oec.world/en/profile/hs/textiles>.

¹⁹ WWF and H&M group (2021), *Water Stewardship in Apparel and Textiles*, https://wwfint.awsassets.panda.org/downloads/wwf_hm_water_strategy_report_220823_final.pdf.

causes significant pollution that affects local environments and populations.²⁰ For example, in Bangladesh, people living along the rivers where textile industry wastes are present have high degrees of illness as a result of industrial wastes and effluents in their water and food.²¹ In some contexts, local stakeholders note that pollution is ‘blatant and well known, and the laws are strong but never enforced... It is as if the industry has a free pass to pollute because it creates jobs’.²² Different industry initiatives focused on improving water stewardship in textiles have emerged, such as the Open Apparel Registry, Sustainable Apparel Coalition, Zero Discharge of Hazardous Chemicals, and the CEO Water Mandate. The UK has Textiles 2030, to which over 30 major retailers have signed up, pledging to reduce their overall water footprint for new textiles by 30 per cent by 2030.²³

Mining

The mining and processing of mineral raw materials also has a high impact on water sources, particularly groundwater – water beneath the surface that can also feed into freshwater supplies.²⁴ Mining companies have responded with self-governance initiatives like the International Council on Mining and Metals’ guidance on water stewardship and reporting, and the Extractive Industries Transparency Initiative (EITI) guidance on environmental impact disclosures.²⁵ However, the metals and mining industry is expanding rapidly in response to demand for electronics and low-carbon energy technologies. Authors of a 2021 study found that the industry has increased pressure on vulnerable ecosystems: extraction sites are often located near protected areas, and 90 per cent of such sites are in areas with below-average relative water availability.²⁶ Figure 1 shows that many global mining sites are located in areas exhibiting medium (orange) to extreme (dark red) water risk, where operations are likely to intensify stress levels. Even without accounting for the effect of improper water management on biodiversity, the impacts of mining on water can cost billions of dollars to resolve.²⁷ The highly lucrative nature of the mineral products industry (with a total trade value of \$2.89 trillion in 2021)²⁸ offers the potential to address these issues going forward.

²⁰ Hepworth, N., Narte, R., Samuel, E. and Neumann, S. (2021), ‘How fair is fashion’s water footprint?’, *Water Witness International*, <https://waterwitness.org/news-events/2021/7/12/how-fair-is-fashion-water-footprint>.

²¹ Sakamoto, M., Ahmed, T., Begum, S. and Huq, H. (2019), ‘Water Pollution and the Textile Industry in Bangladesh: Flawed Corporate Practices or Restrictive Opportunities?’, *Sustainability*, 11(7), <https://doi.org/10.3390/su11071951>.

²² Member of National Water Board of Tanzania, quoted in Hepworth, Narte, Samuel and Neumann (2021), ‘How fair is fashion’s water footprint?’, p. 72; WRAP (2023), ‘Textiles 2030’, WRAP website, <https://wrap.org.uk/taking-action/textiles/initiatives/textiles-2030>.

²³ WWF and H&M group (2021), *Water Stewardship in Apparel and Textiles*.

²⁴ UN (2022), *The United Nations World Water Development Report 2022 – Groundwater: Making the invisible visible*, <https://www.undp.org/publications/united-nations-world-water-development-report-2022-groundwater-making-invisible-visible>.

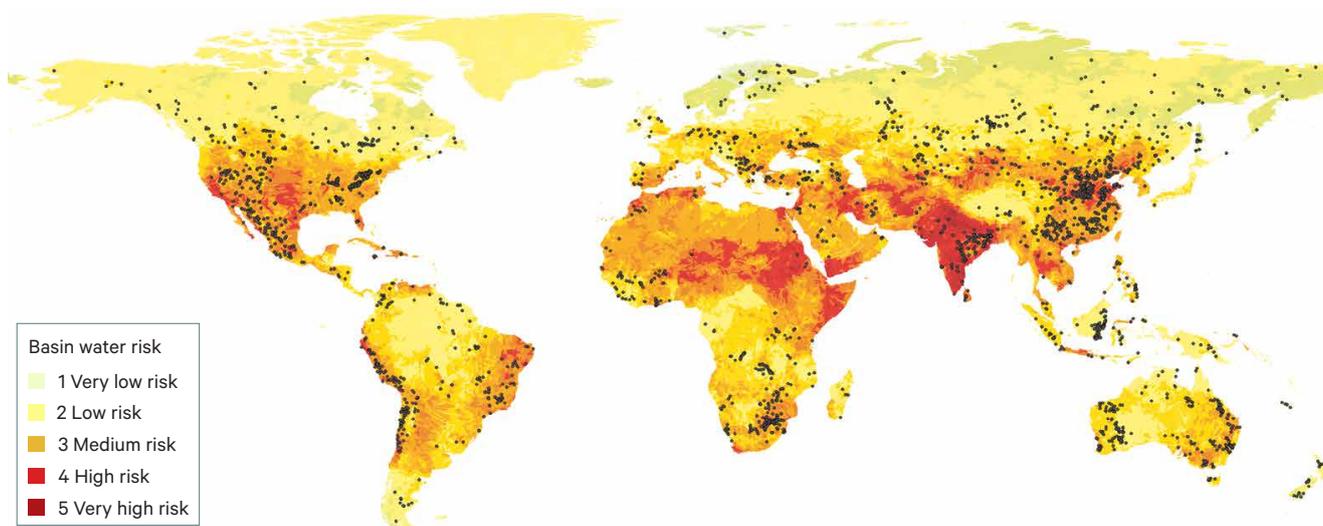
²⁵ EITI (2019), *Guidance Note: Environmental impact of extractive activities*, <https://eiti.org/guidance-notes/environmental-impact-extractive-activities>.

²⁶ Luckeneder, S. et al. (2021), ‘Surge in global metal mining threatens vulnerable ecosystems’, *Global Environmental Change*, 69, p. 102303, <https://doi.org/10.1016/j.gloenvcha.2021.102303>.

²⁷ Morgan, A. J. and Dobson, R. (2020), *An analysis of water risk in the mining sector*, Water Risk Filter Research Series, https://wwfint.awsassets.panda.org/downloads/analysis_of_water_risk_in_mining_sector_wwf_water_risk_filter_research_series.pdf.

²⁸ OEC (2023), ‘Mineral products’, <https://oec.world/en/profile/hs/mineral-products>.

Figure 1. Distribution of global active and operating mines against overall water risk (physical, regulatory and reputational), 2020



Source: WWF (2020), Water Risk Filter Research Series: An Analysis of Water Risk in the Mining Sector, https://wwfint.awsassets.panda.org/downloads/analysis_of_water_risk_in_mining_sector__wwf_water_risk_filter_research_series_.pdf; WWF (2023), 'Water Risk Filter: Methodology Documentation', January 2023, https://cdn.kettufy.io/prod-fra-1.kettufy.io/documents/riskfilter.org/WaterRiskFilter_Methodology.pdf.

Addressing the water impacts of international trade

Academics have developed the concept of virtual water and emphasized the need for consumers to understand this, for example through water intensity labelling on products.²⁹ So far, voluntary environmental, social and governance (ESG) initiatives have struggled to address the systemic impacts of water footprints.³⁰ NGOs such as Water Witness advocate for consumer countries to strengthen policy, governance and political leadership on this issue.³¹ Such measures could also enable major importers of virtual water to ascertain if their supply chains are at risk of disruption. There is now a multiparty coalition of high ambition governments, industry and civil society collaborating to reduce water footprints in trade (see Box 1).

Such measures are not a substitute for multilateral action, but they are complementary and, in the long run, may increase global ambition by providing information on virtual water flows and affecting patterns of production and consumption.

²⁹ Notably Tony Allan, Arjen Hoekstra and Zafar Adeel. See Hoekstra, A. Y. and Hung, P. Q. (2003), *Virtual water trade: Proceedings of the international expert meeting on virtual water trade*, Value of Water Research Report Series No. 12, IHE DEFLT: Netherlands, <https://www.waterfootprint.org/resources/Report12.pdf>; Henley, W. (2013), 'Will we ever see water footprint labels on consumer products?', *Guardian*, 23 August 2013, <https://www.theguardian.com/sustainable-business/water-footprint-labels-consumer-products>.

³⁰ Morgan, A. et al. (2022), *Bridging the gaps in ESG Water Data to create opportunities: A discussion paper for investors*, WWF, https://wwfint.awsassets.panda.org/downloads/water__esg__wwf_discussion_paper__march_2022.pdf.

³¹ Hepworth N. D. (2021), *Tackling the Global Water Crisis: The Role of Water Footprints and Water Stewardship*, Institute of Development Studies, <https://doi.org/10.19088/K4D.2021.109>.

A number of non-binding agreements at the multilateral level could create a foundation for more rigorous disclosures and enforcement of water standards in trade. For example, SDG 6 focuses on access to water and sanitation as ‘the most basic human need for health and well-being’ and thus encourages international support for the provision of water, sanitation and health (WASH) services. Despite recent trends towards protectionism and weak international cooperation, countries have still managed to reach international agreements, for example at the WTO on fishing rights,³² and the UN has recognized safe and clean drinking water as an essential human right.³³ It is necessary for global bodies to also recognize the relationship between water and gender in policy debates, as women and girls are more likely to be the ones responsible for collecting water for their households and may lack safe sanitation.³⁴

More recently, the UN General Assembly resolution on the right to a clean, healthy and sustainable environment (2022) notes the importance of water.³⁵ This was recalled in the text at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) in Sharm El-Sheikh in 2022 (COP27), which also addressed water for the first time in a COP text. COP28 in Dubai, at the end of 2023, adopted a framework for the Global Goal on Adaptation, which in the published text recognizes the critical role of protecting and restoring natural water systems and announced a target of ‘significantly reducing climate-induced water scarcity and enhancing climate resilience to water-related hazards towards a climate-resilient water supply, climate-resilient sanitation and towards access to safe and affordable potable water for all.’³⁶ Agreements such as these, among 197 countries plus the EU, underscore the common interest in and urgency of better water management.

To tackle the challenges of managing water sustainably and equitably between producer and consumer countries, this research paper focuses on immediate actions that could be taken at the national or international level. It outlines exporter and importer country options to understand and address the water impacts of their supply chains with examples from EU and UK policies. To explore how these policies can impact water-intensive trade, the research looks at two cases of water-stressed countries for which trade relations with the UK and EU are important: Malawi and Morocco. Malawi–UK and Morocco–EU trade flows are both linked to water-intensive agricultural products and minerals; Morocco is also a major textile exporter. The paper concludes with recommendations for countries to address water-intensive imports.

³² WTO (2022), ‘Agreement on Fisheries Subsidies’, https://www.wto.org/english/tratop_e/rulesneg_e/fish_e/fish_e.htm.

³³ UN General Assembly (2010), ‘Resolution adopted by the General Assembly on 28 July 2010’, A/RES/64/292, <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F64%2F292&Language=E&DeviceType=Desktop&LangRequested=False>.

³⁴ UNICEF and WHO (2023), *Progress on household drinking water, sanitation and hygiene 2000-2022: special focus on gender*, https://www.unwater.org/sites/default/files/2023-07/jmp-2023-wash-households-launch-version_0.pdf.

³⁵ UN General Assembly (2022), ‘The human right to a clean, healthy and sustainable environment: resolution/adopted by the General Assembly’, A/RES/76/300, <https://digitallibrary.un.org/record/3983329?ln=en&v=pdf>.

³⁶ UNFCCC (2023), ‘Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3’, 13 December 2023, <https://unfccc.int/documents/636595>.

02

Exporter-country initiatives and challenges

While some countries have attempted to sustainably manage water resources, success has been limited due to the influence of commercial interests and a lack of incentives.

Countries exporting water-intensive goods tend to encourage efficient resource use with sectoral planning, standard-setting and water pricing. However, implementation challenges and concerns about negatively affecting export competitiveness can restrict efforts to improve systems of oversight and development.

The planning and setting of goals for water use depends on the national context. Many countries have plans to boost water and sanitation access for their populations, and they are taking into consideration the need to adapt to climate change. However, less attention has been paid to industrial water use.³⁷ Coordinating targets and goals for industrial water use across actors and agencies is complicated due to the number of stakeholders and sectors involved from forestry to mining to housing. For example, water that is used for mining cannot be reused for agriculture or human consumption unless it is processed to remove pollutants.

The introduction of standards and laws can limit pollution (e.g. penalties for discharging into rivers, requirements to treat wastewater) and restrict water withdrawals (e.g. by requiring permits for wells). However, capacity constraints, such as a lack of financial resources and staffing, can impact the monitoring and enforcement of standards. This can lead to opportunities for bribery, as in some places, groups more powerful than law enforcement bodies may control water

³⁷ See for example, Water Tracker (2022), *Malawi Country Report: Application of the Water Tracker for National Climate Planning*, <https://www.alliance4water.org/s/Country-Report-Malawi-mbw4.pdf>.

use and access. Research from the Water Integrity Network suggests that anywhere between 6 per cent and 26 per cent of total water system costs worldwide could be lost to corruption.³⁸ Many countries with water scarcity issues, including Australia and the US,³⁹ have documented cases of regulatory capture – whereby the companies that the government is meant to regulate influence regulatory bodies – and corruption.

Pricing schemes are an important element of efficient water use, particularly for covering the costs of treatment and delivery. For piped water, block tariffs with fees for different services can help incentivize efficiency and reinvestment, and potentially enable cross-subsidization to support low-income households. There are different approaches available for pricing the direct use of water from rivers or aquifers. Pricing directly abstracted water can encourage sustainable use, as supported by case studies in the US, China and Australia, which found that the introduction of pricing increased efficiency.⁴⁰ Some countries like South Africa protect and reserve sustainable water sources for basic human needs and ecosystem functions, but allow any surplus water to be allocated for commercial purposes.⁴¹ However, in other countries, water markets can be monopolized. For example, in Chile, where ownership of water rights is concentrated and there is a lack of transparency, many locals do not have access to clean water, but virtual water is exported in the form of avocados around the world.⁴²

Research into water footprints suggests that water pricing needs to be much more sophisticated than other pricing mechanisms created to improve sustainability, such as for carbon, because water has different values at different times (during droughts versus rainy seasons).⁴³ It is also necessary to consider that markets prioritize more profitable uses of water, such as industry, over food production or the needs of poor rural households.⁴⁴ There are also important cultural associations with water, including spiritual meanings and identity, that make agreeing on a specific price difficult.⁴⁵

³⁸ This estimate is based on results from contracts in Latin American countries. Water Integrity Network (2021), *Water Integrity Global Outlook 2021*, <https://wasreb.go.ke/wp-content/uploads/2021/09/Water-Integrity-Global-Outlook-2021%20-Report.pdf>.

³⁹ Grafton, R. Q. and Williams, J. (2020), 'Rent-seeking behaviour and regulatory capture in the Murray-Darling Basin, Australia', *International Journal of Water Resources Development*, 36(2-3), pp. 484–504, <https://doi.org/10.1080/07900627.2019.1674132>; Grooms, K. K. (2015), 'Enforcing the Clean Water Act: The effect of state-level corruption on compliance', *Journal of Environmental Economics and Management*, 73, pp. 50–78, <https://doi.org/10.1016/j.jeem.2015.06.005>.

⁴⁰ Zhang, C. Y. and Oki, T. (2023), 'Water pricing reform for sustainable water resources management in China's agricultural sector', *Agricultural Water Management*, 275, <https://doi.org/10.1016/j.agwat.2022.108045>.

⁴¹ Ecosystem functions refers to the basic functioning of ecosystems needed for plants and animals to survive and support human life. Richter, B. (2016), *Water Share: Using water markets and impact investment to drive sustainability*, The Nature Conservancy, <https://www.nature.org/content/dam/tnc/nature/en/documents/WaterShareReport.pdf>.

⁴² Langrand, M. (2022), 'Part I: Chile's battle to reclaim its water', *Geneva Solutions*, <https://genevasolutions.news/explorations/the-water-we-share/chile-s-battle-to-reclaim-its-water>.

⁴³ Erzin, E. A. and Hoekstra, A. Y. (2012), *Carbon and Water Footprints: Concepts, Methodologies and Policy Responses*, United Nations World Water Assessment Programme, <https://unesdoc.unesco.org/ark:/48223/pf0000217181>.

⁴⁴ D'Odorico et al. (2019), 'Global virtual water trade and the hydrological cycle: patterns, drivers, and socio-environmental impacts'.

⁴⁵ Government of the Netherlands (2020), *Valuing Water: A Conceptual Framework for Making Better Decisions Impacting Water*, <https://www.gwp.org/contentassets/963260f5a99f44aaab550cf0add4280c/vwiconceptualframeworkfeb2020.pdf>.

Competitiveness concerns – what can water initiatives learn from the case of carbon?

Exporting countries may be concerned that stricter environmental standards will make their goods less competitive. Regulation or higher water prices can result in companies moving operations to less regulated or cheaper countries (offshoring), which would mean that global pollution stays the same or even rises. When it comes to carbon, these concerns have prevented effective action by countries that produce high-carbon goods. The idea that standards or carbon taxes in one jurisdiction will result in ‘carbon leakage’ – increased production in areas with lower climate ambition – has led producers like the EU to provide certain vulnerable industries, such as mining and manufacturing of construction materials and textiles, with free allocations of allowances that enable companies to emit a certain amount of carbon under the EU Emissions Trading System.⁴⁶ These exemptions are incompatible with actual decarbonization.⁴⁷

Regulation or higher water prices can result in companies moving operations to less regulated or cheaper countries, which would mean that global pollution stays the same or even rises.

In a similar fashion, countries exporting virtual water may not be incentivized to act for fear of losing their competitive advantage in international markets. For example, if country X introduces or increases prices for water, firms might relocate to country Y where water is free or cheaper. As a result, country X will lose revenues and jobs, while country Y may face increased pressures on its water systems. The key lesson from carbon taxes is that the free allocation of allowances for industry does not incentivize sustainable use.

Persuading governments to tackle the issues of virtual water trade might be more straightforward than efforts to address greenhouse gas emissions, due to the immediate local impacts of water stress from industry including pollution and reduced availability of water. Political pressure for better water governance can emerge because of conflicting interests in society over access to water (from households to agriculture to industry).⁴⁸ These pressures have sometimes resulted in societal conflicts, for example in the 1999 Bolivian ‘Water War’, in which privatization of community-built water infrastructure resulted in a popular movement that eventually toppled the government.⁴⁹ It would therefore

⁴⁶ European Commission (2021), ‘Carbon leakage’, https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/free-allocation/carbon-leakage_en.

⁴⁷ Grubb, M. et al. (2022), ‘Carbon leakage, consumption, and trade’, *Annual Review of Environment and Resources*, 47, pp. 753–795, <https://www.annualreviews.org/doi/abs/10.1146/annurev-environ-120820-053625>.

⁴⁸ Wolf, A. T. (2007), ‘Shared Waters: Conflict and Cooperation’, *Annual Review of Environment and Resources*, 32, pp. 241–69, <https://doi.org/10.1146/annurev.energy.32.041006.101434>.

⁴⁹ Hines, S. T. (2021), *Water for All: Community, Property, and Revolution in Modern Bolivia*, University of California Press.

be prudent for foreign companies operating in water-intensive sectors to be proactive in addressing water issues to avoid embroilment in political conflict and further risks in the future.

Box 2. WTO-compatible water protection measures

If countries that are part of the WTO aim to improve their water protection with measures that affect trade, they must abide by the rules of the General Agreement on Tariffs and Trade (GATT). The GATT allows for trade restrictions in certain cases under Article XX, if restrictions are:

(b) necessary to protect human, animal or plant life or health... (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption...⁵⁰

However, these exemptions are only relevant if, 'such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade.'⁵¹ These exemptions are considered a last resort, if a country has another policy option to address an environmental problem that would be equally effective but not affect trade, it must implement this policy first.

Compliance support must also be equitable, as a 1998 case against the US highlights. When the US tried to restrict the import of shrimp that were harvested using methods which harmed sea turtles, exporters of shrimp – India, Malaysia, Pakistan and Thailand – brought a case to the WTO. The US lost the case because it provided countries in the Caribbean with technical and financial assistance and longer transition periods to adapt but did not extend this to Asian countries.⁵²

Countries can also implement restrictive trade measures based on environmental standards under the WTO Technical Barriers to Trade Agreement (TBT). Under this agreement, countries can implement standards with 'legitimate objectives' including the 'protection of human health or safety, animal or plant life or health, or the environment', but should not create unnecessary barriers to international trade. The agreement also encourages governments to apply international standards and to support the compliance of developing countries with these standards.⁵³ The agreement, 'discourages any methods that would give domestically produced goods an unfair advantage'.⁵⁴

Increased multilateral action would help close gaps that disincentivize individual countries from moving forward on sustainability. However, countries have struggled to coordinate and align in multilateral forums. For example, WTO negotiations to facilitate wastewater management and water treatment stalled in 2016

⁵⁰ WTO (undated), 'WTO rules and environmental policies: GATT exceptions', https://www.wto.org/english/tratop_e/envir_e/envt_rules_exceptions_e.htm.

⁵¹ Ibid.

⁵² WTO (undated), 'India etc versus US: 'shrimp-turtle'', *WTO case Nos. 58 (and 61), Ruling adopted on 6 November 1998*, https://www.wto.org/english/tratop_e/envir_e/edis08_e.htm.

⁵³ WTO (undated), 'Uruguay Round Agreement: Agreement on Technical Barriers to Trade', https://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm.

⁵⁴ WTO (undated), 'Standards and safety', https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm4_e.htm#TRS.

Tackling trade-related water risks

How importing countries can address water stress from global commodity production

and have not yet restarted. Scholars link the failure of the negotiations to geoeconomic competition between the EU, the US and China on key environmental goods, and the current Biden administration has shown no interest in restarting negotiations.⁵⁵ The WTO's Trade and Environmental Sustainability Structured Discussions (TESSD), which began in 2021,⁵⁶ offer a potential avenue for multilateral coordination as the initiative includes developing country members and aims to define and coordinate best practices on linking trade and environmental policies in a WTO-compatible way.

⁵⁵ Reinsch, W. A., Benson, E. and Puga, C. (2021), *Environmental Goods Agreement: A New Frontier or an Old Stalemate?*, Center for Strategic and International Studies, <https://www.csis.org/analysis/environmental-goods-agreement-new-frontier-or-old-stalemate>.

⁵⁶ WTO (undated), 'Trade and environmental sustainability', https://www.wto.org/english/tratop_e/tessd_e/tessd_e.htm.

03

Importer-country initiatives and challenges

Importer countries can mandate supply chain transparency and due diligence, put conditions on market access and set sustainability criteria in trade agreements.

Mandating disclosure and due diligence in supply chains

At the UN Water Conference in March 2023, the Global Commission of the Economics of Water released a report with seven points for action. Point four emphasized disclosure of water footprints as critical and ‘key to steering capital and consumer preferences in favour of sustainable practices’, and the report recommended that governments make these mandatory.⁵⁷ At present, corporate entities may be obliged to report on the environmental risks and impacts of their business in different ways or not at all. The scope, detail and metrics for disclosures depends on the legislation of the countries in which companies are headquartered or operate. However, sustainability reporting requirements are moving towards global standardization (see Box 3).⁵⁸

⁵⁷ UN Global Commission on the Economics of Water (2023), ‘Turning the Tide: A Call to Collective Action’, March, <https://turningthetide.watercommission.org>.

⁵⁸ CDP (2023), *Shaping High-Quality Mandatory Disclosure: Taking stock and emerging best practice*, September, https://cdn.cdp.net/cdp-production/cms/policy_briefings/documents/000/007/292/original/CDP_High_Quality_Mandatory_Disclosure.pdf?1693840960.

Voluntary disclosure and due diligence standards created by businesses for their own supply chains have a mixed record. While they can lead to positive change, in some cases they may result in greenwashing: ‘the practice of overstating the environmentally or socially conscious attributes of an enterprise’s offering while understating the negative attributes, to the enterprise’s benefit.’⁵⁹

As many companies already track and disclose water use and water risks to their business, mandated corporate water disclosure would not be a burden for these firms. For example, CDP – an international not-for-profit organization focusing on disclosure – conducted an analysis of 3,370 business disclosures in 2021, finding that, ‘98% of all respondents can disclose whether or not they are exposed to substantive water-related risks. 95% can disclose the number of facilities exposed.’⁶⁰ For companies of a certain size, the EU now mandates reporting on not only the financial risks to the company, but also the company’s impacts on the availability, quality or access to water in a given location (see the next section on EU legislation). Likewise, there are international bodies working on developing a baseline for climate disclosures (see Box 3).⁶¹

Legislation to implement reporting requirements from companies would be more successful if G20 countries moved together to mandate what CDP calls ‘full water disclosure’: corporate disclosures that enable a comprehensive view of the risks, opportunities and responses to water insecurity.

Legislation to implement reporting requirements from companies would be more successful if G20 countries moved together to mandate what CDP calls ‘full water disclosure’: corporate disclosures that enable a comprehensive view of the risks, opportunities and responses to water insecurity. There is an opportunity to progress this through the G20 Sustainable Finance Roadmap, which recognizes the authority of the Taskforce on Nature-related Financial Disclosures (TNFD) and seeks, ‘[i]nternational coordination on approaches to identify, verify and align investments to sustainability goals’.⁶²

⁵⁹ Kelly, L. et al. (2022), *Triggering market transformation for fair water footprints*, Edinburgh: Declaration for Fair Water Footprints, https://fairwaterfootprints.org/app/uploads/2022/12/WWI_FWF_IIED_Market_Transformation_report_proof_05.pdf.

⁶⁰ Lamb, C., Paccagnan, V. and Zehra, D. (2022), ‘Setting the high-water mark for mandatory disclosure’, CDP, https://cdn.cdp.net/cdp-production/cms/policy_briefings/documents/000/006/409/original/Setting_the_high_water_mark_for_mandatory_disclosure.pdf?1660576398.

⁶¹ European Commission (2022), ‘Sustainable Finance’, press release, 26 July 2022, <https://ec.europa.eu/newsroom/fisma/items/754701/en>.

⁶² G20 (2021), ‘G20 Sustainable Finance Roadmap’, 7 October 2021, <https://g20sfwg.org/wp-content/uploads/2021/10/G20-Sustainable-Finance-Roadmap.pdf>.

Box 3. Evolving global standards for environmental and water risk disclosure

To date, there is an evolving collection of frameworks, recommendations and standards that encourages business reporting on water risks – chiefly from the CDP, the TNFD and the International Sustainability Standards Board (ISSB), which sits under the International Financial Reporting Standards (IFRS) Foundation. The IFRS develops and oversees globally accepted accounting standards. These entities are closely aligned – the ISSB and CDP are knowledge partners to the Taskforce on Climate-related Financial Disclosures (TCFD) – and CDP intends to align its reporting standards with the TCFD as of 2024.⁶³ While these standards and frameworks differ in purpose and content, there is convergence on the agenda to develop a unified global baseline for reporting including climate, water, nature, and broader environmental risks and impacts, which will move from voluntary to mandatory application.⁶⁴

The IFRS Foundation launched the ISSB at COP26 in Glasgow in 2021. The ISSB is tasked with developing standards for a global baseline of sustainability and climate disclosures that will enable companies to report to investors and financiers on an internationally comparable basis. The ISSB has introduced two Sustainability Disclosure Standards (SDS): IFRS S1 on general sustainability and IFRS S2 on climate-related disclosures, which were published in June 2023 and came into effect in January 2024. Application of these standards could reduce duplication of water disclosure efforts across jurisdictions. IFRS S1, for instance, requires an entity to disclose information about all ‘sustainability-related risks and opportunities’ that could reasonably be expected to affect the entity’s commercial prospects:

For example, if an entity’s business model depends on a natural resource – such as water – the entity could both affect and be affected by the quality, availability and affordability of that resource. Specifically, degradation or depletion of that resource – including resulting from the entity’s own activities and from other factors – could create a risk of disruption to the entity’s operations and affect the entity’s business model or strategy and could ultimately negatively affect the entity’s financial performance and financial position. In contrast, regeneration and preservation of that resource – including resulting from the entity’s own activities and from other factors – could positively affect the entity.⁶⁵

It later states:

The entity might need to disaggregate information about sustainability-related risks and opportunities, for example, by geographical location or in consideration of the geopolitical environment. For example, to ensure that material information is not obscured, an entity might need to disaggregate information about its use of water to distinguish between water drawn from abundant sources and water drawn from water-stressed areas.⁶⁶

⁶³ TNFD (undated), ‘Knowledge Partners’, <https://tnfd.global/about/knowledge-partners>.

⁶⁴ Tin, Y. K. F. et al. (2024), *Accountability for Nature: Comparison of Nature-Related Assessment and Disclosure Frameworks and Standards*, United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) and United Nations Environment Programme Finance Initiative (UNEP-FI), <https://www.unepfi.org/wordpress/wp-content/uploads/2024/01/Accountability-for-Nature.pdf>.

⁶⁵ International Financial Reporting Standards Foundation (2023), ‘General Requirements for Disclosure of Sustainability-related Financial Information’, IFRS S1 Sustainability Disclosure Standard, <https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards-issb/english/2023/issued/part-a/issb-2023-a-ifrs-s1-general-requirements-for-disclosure-of-sustainability-related-financial-information.pdf?bypass=on>.

⁶⁶ Ibid.

These two sustainability disclosure standards can currently be applied independently of the main body of IFRS accounting standards (mandatory for company reporting in 140 jurisdictions), but the aim is that they will gradually be included as requirements in the same jurisdictions. At COP28, over 400 entities ‘committed to advancing the adoption or use of the International Sustainability Standards Board’s climate-related reporting at a global level’.⁶⁷ Governments stating that they plan to adopt or align domestic accounting frameworks with the ISSB’s SDS include Australia, Brazil, Canada, the EU (through the European Sustainability Reporting Standards – ESRS), Nigeria, Singapore and South Korea.⁶⁸

In certain value chains, where buyers are far more powerful than suppliers and set conditions of trade, buyers may also pass compliance costs for standards (voluntary or mandated) onto their suppliers. For agricultural goods like wine and coffee, the market power of dominant buyers allows them to set prices for coffee beans or grapes, and to require supplier compliance with environmental standards. When suppliers must meet environmental standards without being able to sell their goods for a higher price, they may cut costs in other areas such as labour.⁶⁹ It is therefore important to ensure that standards encompass both environmental and social issues.

EU legislation

In the context of the European Green Deal, EU legislation will play an increasingly important role in the trend towards global standards for environmental and sustainability reporting. Several directives could serve as models – and offer useful lessons – for other jurisdictions aiming to strengthen their disclosure and due diligence frameworks on water.

Expanding disclosure

The EU’s 2014 Non-financial Reporting Directive (NFRD) boosted supply chain governance by requiring major companies to report on their environmental impacts. However, the policy had some shortcomings including a lack of unified or detailed reporting standards, and a limited scope in terms of which companies were subject to these measures. To remedy these issues, the EU introduced the Corporate Sustainability Reporting Directive (CSRD) in 2022 to replace the NFRD. In addition to the CSRD, the EU then proposed the Corporate Sustainability Due Diligence Directive (CSDDD), which is awaiting EU parliamentary approval,

⁶⁷ IFRS (2023), ‘ISSB at COP28: close to 400 organisations from 64 jurisdictions, including associations gathering over 10,000 member companies and investors, join multilateral and market authorities to commit to advance the ISSB climate global baseline’, <https://www.ifrs.org/news-and-events/news/2023/12/issb-at-cop28-statement-of-support>.

⁶⁸ Kerschner, S. et al. (2023), ‘Eight things to know about the Taskforce on Nature-related Financial Disclosures’, White and Case, <https://www.whitecase.com/insight-alert/eight-things-know-about-taskforce-nature-related-financial-disclosures>.

⁶⁹ For an overview, see Ponte, S. (2020), ‘The hidden costs of environmental upgrading in global value chains’, *Review of International Political Economy*, 29(3), pp. 818–843, <https://doi.org/10.1080/09692290.2020.1816199>.

expected in April 2024. From a broader perspective, these regulations can be seen as advancing global standards for sustainability reporting, and they could serve as models for other jurisdictions that aim to strengthen their supply chain governance measures.

The CSRD requires all large EU companies and their subsidiaries, as well as companies listed on regulated markets, to disclose and ensure third-party sustainability auditing. This should detail how sustainability issues impact company operations and financial performance, and the impact the company has on people and the environment.⁷⁰ While the NFRD was aimed at covering 11,700 companies, the EU plans for the CSRD to be adopted by at least 50,000 companies. The CSDDD is intended to compliment the CSRD and, when it comes into force, should boost compliance with the CSRD among large companies by imposing duties and penalties for due diligence violations as well as enabling victims to claim compensation for damages.

Table 1. EU supply chain governance measures

	CSRD (adopted Nov 2022, reporting begins in 2025)	CSDDD (revised version expected to pass in Apr 2024)
Firms impacted	All EU-listed companies including subsidiaries with over 250 employees, or over €40 million in annual revenue, or over €20 million in total assets.	Companies with more than 1,000 employees and a net worldwide turnover over €450 million – including their operations, subsidiaries and value chains. To be phased in from 2027 to 2029 and first applied to larger companies.
Implementation and enforcement	Third-party accredited audit required.	Phased in between 2027 and 2029. Member states impose fines and compliance orders, and enable victim compensation for damages.
Reporting requirements	Discloses and ensure auditing of information related to business model, strategy and supply chains as laid out in the European Sustainability Reporting Standards (ESRS).	Companies: Identify, prevent and account for negative human rights and environmental impacts (defined as any measurable environmental degradation, such as harmful soil change, water or air pollution, harmful emissions or excessive water consumption); adopt a climate transition plan compatible with the 1.5°C climate target. Directors: Set up and oversee due diligence implementation; consider consequences of decisions in ‘best interests’ of company.

The extent of reporting required – the ESRS

The European Sustainability Reporting Standards (ESRS) set the disclosure requirements for the CSRD. The initial draft of these standards proposed by the European Financial Reporting Advisory Group had the potential to reduce Europe’s water footprint, as it included mandatory reporting on water and marine resources,

⁷⁰ European Commission (2022), ‘Sustainable Finance’, press release, 26 July 2022, <https://ec.europa.eu/newsroom/fisma/items/754701/en>.

pollution, and biodiversity and ecosystems, among others.⁷¹ However, the final standards adopted by the European Commission in July 2023 were weakened in member state negotiations, potentially limiting the CSRD's ability to encourage more sustainable water footprints in trade.⁷² Companies must still assess and disclose financial and impact materiality, but it is now *voluntary* to explain why certain areas are deemed material or not, including water and marine resource reporting.⁷³ As noted by a public statement from a coalition of financial actors, 'it would be up to corporates, supported by their consultants and advisers, to determine what is, and isn't, material to report'.⁷⁴ Furthermore, disclosures on biodiversity⁷⁵ and the welfare and protection of agency or contracted workers are voluntary.⁷⁶

Limitations to enforcement and compensation – the CSDDD

Introduction of the CSDDD would be a groundbreaking piece of legislation in terms of enforcement, but experts have pointed out limitations for water.⁷⁷ First, cases must relate to the breaking of existing environmental or human rights conventions. Due to the lack of binding international agreements on water, it may be difficult to use the CSDDD in water-related legal challenges. Second, the CSDDD can be seen as the EU encroaching into corporate law, which is usually a member state competence, leading to legal questions and opposition.⁷⁸ Third, some civil society actors have criticized the CSDDD for being too narrow and covering too few companies, as well as having 'mostly given up on its original plans for directors' obligations and accountability to shareholders'.⁷⁹ Although the CSDDD was expected to pass in February 2024, Germany and then Italy opposed the final proposal; the Council of the European Union adopted a watered down version of the directive in March 2024. The main changes were to increase the size of companies to which legislation would apply and to lengthen the timeline for phase-in.⁸⁰

⁷¹ European Financial Reporting Advisory Group (2021), *Proposals for a relevant and dynamic EU Sustainability Reporting Standard-Setting*, <https://www.efrag.org/Lab2>.

⁷² PWC (2023), 'Final European Sustainability Reporting Standards have been adopted', 4 August 2023, <https://blogs.pwc.de/de/sustainability/article/238819/final-european-sustainability-reporting-standards-have-been-adopted>.

⁷³ European Commission (2023), 'Questions and Answers on the Adoption of European Sustainability Reporting Standards', 31 July 2023, https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_4043.

⁷⁴ Principles for Responsible Investment (2023), 'Joint statement from EFAMA, Eurosif, IIGCC, PRI and UNEP FI on European Sustainability Reporting Standards', press release, 7 July 2023, <https://www.unpri.org/driving-meaningful-data/joint-statement-from-efama-eurosif-iigcc-pri-and-unep-fi-on-european-sustainability-reporting-standards/11525.article>.

⁷⁵ WWF (2023), 'Controversial last-minute changes by Commission undermine draft standards for corporate sustainability reporting', press release, 12 June 2023, <https://www.wwf.eu/?10868941/Controversial-last-minute-changes-by-Commission-undermine-draft-standards-for-corporate-sustainability-reporting>.

⁷⁶ Hoffman, C. and Rees, C. (2023), 'Comment: New EU reporting rules have a loophole that will jeopardize a green and just transition', Reuters, 6 July 2023, <https://www.reuters.com/sustainability/society-equity/comment-new-eu-reporting-rules-have-loophole-that-will-jeopardize-green-just-2023-07-06>; see also Jayna, R. (2023),

'Asset managers unite to urge European Commission to tighten ESG reporting rules', BusinessGreen, 14 July 2023, <https://www.businessgreen.com/news/4120159/asset-managers-unite-urge-european-commission-tighten-esg-reporting-rules>.

⁷⁷ European Commission (2022), 'Corporate sustainability due diligence: Fostering sustainability in corporate governance and management systems', https://commission.europa.eu/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence_en.

⁷⁸ Research interview with water expert with EU experience, under the condition of anonymity, April 2023.

⁷⁹ E3G (2022), 'EU Sustainable Corporate Governance doesn't truly address directors' duties', press release, 23 February 2023, <https://www.e3g.org/news/eu-sustainable-corporate-governance-doesnt-t-truly-address-directors-duties>.

⁸⁰ Gergondet, E. et al. (2024), *Human Rights and the Environment: What to expect from the Corporate Sustainability Due Diligence Directive*, Mayer Brown, 19 March 2024, <https://www.mayerbrown.com/en/insights/publications/2024/03/human-rights-and-the-environment--what-to-expect-from-the-corporate-sustainability-due-diligence-directive>.

New sector-specific due diligence requirements that may affect water use

The EU has also developed sector-specific legislation to combat deforestation in supply chains for certain products including palm oil, cattle, timber, coffee, cocoa and soy, as well as derived products like leather.⁸¹ Deforestation increases stress on water, as trees play an important role in delivering rainwater to underground aquifers and help prevent desertification and reduce the risks of soil erosion and landslides in the event of heavy rainfall. Therefore, policies to fight trade-driven deforestation can have positive impacts on water systems. The regulation on deforestation-free products, which entered into force in June 2023, requires that operators and traders verify their compliance with EU standards. Responsibility for checking product supply chains to ascertain whether traders are following due diligence laws lies with member state authorities.⁸²

Deforestation increases stress on water, as trees play an important role in delivering rainwater to underground aquifers and help prevent desertification and reduce the risks of soil erosion and landslides in the event of heavy rainfall.

In addition, the new EU batteries regulation, which entered into force in August 2023,⁸³ requires due diligence according to the Organisation for Economic Co-operation and Development (OECD) standards for minerals from high-risk areas, including social and environmental risks. Because the mining sector is a major contributor to water stress and pollution, the standard's inclusion of risks to the environment along the supply chain has the potential to encourage sustainable water use. This builds on the 2017 EU conflict minerals resolution,⁸⁴ which did *not* have environmental provisions but aimed to prevent human rights violations from the minerals sector. NGOs have criticized the 2017 conflict minerals resolution for failing to address human rights abuses because of the lack of member state compliance and enforcement.⁸⁵ As the sustainable batteries regulation will also be enforced at the member state level, there is a risk that it has the same weaknesses as the 2017 resolution. The 2017 resolution set up mechanisms for compliance support, including the European Partnership for Responsible Materials.⁸⁶ Lessons learned from this partnership could support the broadened due diligence standards for batteries.

⁸¹ European Commission (undated), 'Deforestation-free products', https://environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products_en.

⁸² Covington (2023), 'EU Deforestation Regulation Set to Come Into Force', 30 May 2023, <https://www.cov.com/en/news-and-insights/insights/2023/05/eu-deforestation-regulation-set-to-come-into-force>.

⁸³ European Commission (2023), 'Circular economy: New law on more sustainable, circular and safe batteries enters into force', 17 August 2023, https://environment.ec.europa.eu/news/new-law-more-sustainable-circular-and-safe-batteries-enters-force-2023-08-17_en.

⁸⁴ European Commission (2021), 'Conflict Minerals Regulation: The regulation explained', https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation/regulation-explained_en.

⁸⁵ IPIS/PAX (2023), *The EU Conflict Minerals Regulation: High stakes, disappointing results*, <https://ipisresearch.be/publication/the-eu-conflict-minerals-regulation-high-stakes-disappointing-results>.

⁸⁶ European Partnership for Responsible Minerals (undated), 'homepage', <https://europeanpartnership-responsibleminerals.eu>.

Member state acts

In addition to EU measures, member states have enacted their own policies such as the French 2017 Corporate Duty of Vigilance Law, which requires companies to identify and prevent severe risks to human health and the environment. This law has been used to challenge water rights violations.⁸⁷ Germany's 2023 Act on Corporate Due Diligence Obligations in Supply Chains aims to prevent human rights violations and includes penalties for non-compliance and violations.⁸⁸ This may address water issues because it includes environmental protection 'where environmental risks can lead to human rights violations',⁸⁹ such as water that is poisonous for human consumption or chemicals that are dangerous for people or the environment. However, these are all new pieces of legislation and have yet to be tested through legal cases. Until then, it is unclear whether they will directly affect practices regarding water sustainability, although the trend points to more scrutiny and penalties for violations in EU supply chain regulations.

UK legislation

The UK is another major importer of virtual water,⁹⁰ and the country has signalled its commitment to sustainability disclosures. Compared with the EU, the UK has fewer laws and policies that address its international supply chains, and the present government is not planning on replicating EU commitments as it sees the current regime as sufficient.⁹¹

Experience with the 2015 Modern Slavery Act

The UK has experience of mandating disclosure in international supply chains through the 2015 UK Modern Slavery Act. This legislation requires large businesses with a yearly turnover of £36 million or more to publish annual 'modern slavery statements', in which companies report on their progress to identify and address slavery risks in their operations and supply chains. There are no financial or legal penalties for failing to comply with reporting requirements, which can be as simple as stating 'there are no slavery risks', although the UK secretary of state (in practice the home secretary) has the power to apply for an injunction requiring

⁸⁷ Business & Human Rights Resource Centre (2021), 'In wake of health crisis in Chile, water giant SUEZ is summoned on the basis of French duty of vigilance law', 7 June 2021, <https://www.business-humanrights.org/en/latest-news/chile-in-wake-of-osorno-health-crisis-water-giant-suez-is-summoned-on-the-basis-of-duty-of-vigilance-law>.

⁸⁸ German Federal Government (2021), 'Supply Chain Act (Lieferkettengesetz): Greater protection for people and the environment in the global economy', press release, 3 March 2021, <https://www.bundesregierung.de/breg-en/service/archive/supply-chain-act-1872076>.

⁸⁹ CSR in Deutschland (2023), 'Fragen und Antworten zum Lieferkettengesetz' [Questions and answers about the Supply Chain Act], <https://www.csr-in-deutschland.de/DE/Wirtschaft-Menschenrechte/Gesetz-ueber-die-unternehmerischen-Sorgfaltspflichten-in-Lieferketten/FAQ/faq.html>.

⁹⁰ Of the UK's global blue water footprint, 49 per cent comes from places under severe water stress, this level of withdrawal is unsustainable. Hoekstra, A. Y. and Mekonnen, M. M. (2016), 'Imported water risk: the case of the UK', *Environmental Research Letters*, 11(5), <https://doi.org/10.1088/1748-9326/11/5/055002>.

⁹¹ Linklaters (2022), 'UK government does not plan to replicate proposed EU Directive on Corporate Sustainability Due Diligence', 13 June 2022, <https://sustainablefutures.linklaters.com/post/102hqhm/uk-government-does-not-plan-to-replicate-proposed-eu-directive-on-corporate-susta>.

companies to disclose further information.⁹² In 2021, the UK House of Commons published a report assessing Uyghur forced labour, which notes that modern slavery statements are not monitored and argues that there should be fines for non-compliance, concluding that ‘the Modern Slavery Act is out of date, has no teeth, and we do not accept that businesses should be excused from doing basic due diligence’.⁹³ This experience shows the challenge of addressing the human rights impacts of trade using due diligence measures without enforcement measures. Subsequently, trade measures to address the UK’s water footprints would likely face similar difficulties.

Enforcing the 2021 Environment Act – a work in progress

The UK’s 2021 Environment Act may influence the UK’s supply chains for forest products as well as the country’s water footprint (as deforestation has negative impacts on water systems). The Environment Act made it unlawful for UK companies to use products (including cattle, cocoa, coffee, maize, palm oil, rubber and soy) from land that was illegally converted or occupied, and proposed due diligence requirements.⁹⁴ The detailed due diligence requirements, the scope of these regulations and the enforcement mechanisms have all yet to be determined. Civil society groups have critiqued the act’s definition of illegal, which only applies to the producer country’s laws and not the UK’s, because it would not prevent illegal deforestation in the Brazilian Amazon.⁹⁵ At the same time, the Brazilian government argued the act could harm trade and might not be WTO-compatible.⁹⁶ According to the Department for Environment, Food and Rural Affairs (Defra), the principles set out in the act should be implemented in additional legislation at the earliest possibility following consultation in June 2022.⁹⁷ Another piece of legislation, the 2023 Financial Services and Markets Act, requires a review of whether the UK financial system is adequate to eliminate financing of illegal forest risk commodities.⁹⁸ However, proposed due diligence measures have not been included in the final act⁹⁹ or further legislation as of February 2024.

⁹² However, there is no requirement for a detailed disclosure. See UK Government (undated), ‘s.54(11) Modern Slavery Act 2015’, National Archives, <https://www.legislation.gov.uk/ukpga/2015/30/part/6/enacted>. See also UK parliament (2019), *Independent Review of the Modern Slavery Act 2015*, https://assets.publishing.service.gov.uk/media/5ce5116e40f0b627de48663d/Independent_review_of_the_Modern_Slavery_Act_-_final_report.pdf.

⁹³ House of Commons Business, Energy and Industrial Strategy Committee (2021), *Uyghur forced labour in Xinjiang and UK value Chains*, <https://committees.parliament.uk/publications/5095/documents/52855/default>.

⁹⁴ WWF (2022), *Due diligence on forest-risk commodities*, <https://www.wwf.org.uk/sites/default/files/2022-03/WWF-UK-Due-Diligence-Secondary-Legislation-External-Policy%20Briefing-V2.pdf>.

⁹⁵ WWF (undated), ‘Due Diligence in the UK’, <https://www.wwf.org.uk/what-we-do/due-negligence-report>.

⁹⁶ Jordan, L. (2022), ‘Brazil threatened UK with trade action over deforestation legislation’, Greenpeace Unearthed, <https://unearthed.greenpeace.org/2022/09/27/brazil-threatened-uk-wto-deforestation-legislation>.

⁹⁷ Defra (2022), *Consultation Outcome: Tackling illegal deforestation in UK supply chains*, <https://www.gov.uk/government/consultations/tackling-illegal-deforestation-in-uk-supply-chains>.

⁹⁸ UK Government (2023), ‘Financial Services and Markets Act 2023’, National Archives, <https://www.legislation.gov.uk/ukpga/2023/29/enacted>.

⁹⁹ Global Witness (2023), ‘MPs should vote for new deforestation due diligence law in Financial Services and Markets Bill’, 22 June 2023, <https://www.globalwitness.org/en/campaigns/forests/mps-should-vote-new-deforestation-due-diligence-law-financial-services-and-markets-bill>.

Towards disclosures, but no enforcement mechanisms yet

In 2022, the UK government mandated disclosure on climate-related financial information in line with recommendations from the Taskforce on Climate-related Financial Disclosures (TCFD).¹⁰⁰

The UK's Sustainability Disclosure Requirements for financial products and firms within the UK could encourage wider company disclosures on sustainability related issues and eventually impact investment patterns.

However, reporting on climate risks including water metrics is not mandatory,¹⁰¹ and the UK Financial Conduct Authority's review of TCFD-aligned disclosures found that companies tend to focus on greenhouse gas emissions rather than other environmental impacts.¹⁰² The UK's Sustainability Disclosure Requirements (SDRs) for financial products and firms within the UK, published in November 2023 and due to come into force in December 2024, could encourage wider company disclosures on sustainability related issues and eventually impact investment patterns. These standards align with the IFRS SDRs, and financial companies will be obliged to disclose sustainability objectives, progress towards these objectives and, in some cases, investment policy and management approaches, as well as label their products accordingly. However, measures only apply to companies within the UK, although there is scope to extend to overseas finance companies in future.¹⁰³ Notably, neither disclosure of principal adverse impacts¹⁰⁴ nor independent verification are required.¹⁰⁵ The lessons learned from the Modern Slavery Act suggest that the SDRs and TCFD will have limited relevance for embedded water in international trade without setting basic reporting requirements or ensuring independent verification.

¹⁰⁰ BEIS and HM Treasury (2021), 'UK to enshrine mandatory climate disclosures for largest companies in law', press release, 29 October 2021, <https://www.gov.uk/government/news/uk-to-enshrine-mandatory-climate-disclosures-for-largest-companies-in-law>. See also BEIS (2022), *Mandatory climate-related financial disclosures by publicly quoted companies, large private companies and LLPs*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056085/mandatory-climate-related-financial-disclosures-publicly-quoted-private-cos-llps.pdf.

¹⁰¹ TCFD (2021), *Guidance on Metrics, Targets, and Transition Plans*, https://assets.bbhub.io/company/sites/60/2021/07/2021-Metrics_Targets_Guidance-1.pdf.

¹⁰² Financial Conduct Authority (2022), 'Review of TCFD-aligned disclosures by premium listed commercial companies', <https://www.fca.org.uk/publications/multi-firm-reviews/tcfd-aligned-disclosures-premium-listed-commercial-companies#1f-chapter-id-summary>.

¹⁰³ Financial Conduct Authority (2023), *Sustainability Disclosure Requirements (SDR) and investment labels*, Policy Statement PS23/16, <https://www.fca.org.uk/publication/policy/ps23-16.pdf>; BEIS (2023), *Resilience for the Future: The UK's Critical Minerals Strategy*, <https://www.gov.uk/government/publications/uk-critical-mineral-strategy/resilience-for-the-future-the-uks-critical-minerals-strategy>.

¹⁰⁴ Principal adverse impacts refer to the negative impacts of investments or advice on sustainability. There is, however, accompanying handbook guidance stating that firms should consider disclosing their impact on the environment and/or society. Financial Conduct Authority (2022), *Consultation Paper: Sustainability Disclosure Requirements (SDR) and investment labels*, <https://www.fca.org.uk/publications/consultation-papers/cp22-20-sustainability-disclosure-requirements-sdr-investment-labels>.

¹⁰⁵ Financial Conduct Authority (2023), 'FCA updates on its Sustainability Disclosure Requirements (SDR) and investment labels consultation', <https://www.fca.org.uk/news/news-stories/fca-updates-sustainability-disclosure-requirements-and-investment-labels-consultation>.

Despite various pieces of related legislation to tackle sustainability and social issues, it remains to be seen how effective the UK will be at addressing the negative impacts of trade on water. If secondary legislation is created, the UK's Environment Act could limit water footprints indirectly by reducing UK demand for forest products from deforestation that harms ecosystems and water cycles. While it may not have a direct impact on water, the Modern Slavery Act can be used to prosecute labour violations and shows the importance of including enforcement mechanisms in any further legislation. The SDRs can encourage disclosure of sustainability objectives, but without independent auditing its impacts may be limited. Compared to the EU, this legislation covers fewer value chains, is less detailed and has fewer enforcement mechanisms. This approach decreases the burden on businesses but is less likely to encourage sustainable water footprints.

Setting standards for market access

Countries have long placed conditions on access to their markets and used standards for public procurement to build demand for desirable goods. Due to the principles of openness and fair competition, enshrined in the WTO's GATT, there are legal and political considerations to this approach. Under the WTO Technical Barriers to Trade agreement, countries can develop their own standards, but these must not be discriminatory and not create unnecessary trade barriers (see Box 6). From a political point of view, if standards are used internationally and are already understood by different actors, like businesses, they may be more acceptable as conditions for market access.¹⁰⁶ A key barrier to applying market access conditions related to water is that there are no international treaties on water that are comparable to international agreements on human rights or climate change. Without an international agreement on water, it is necessary to explore creative ways of tying sustainable water use to market access and the available legislation.

Box 4. WTO-compatible standards for market access

It is possible for countries to enact standards under the Technical Barriers to Trade agreement for certain purposes including environmental protection and consumer information. Countries are encouraged to use already established international standards and to ensure that standards do not create undue barriers to trade.¹⁰⁷ Here, it is important to distinguish between public and private standards. Standards set by states may not violate WTO rules and may still be challenged by other countries: for example, palm oil producers have brought complaints to the WTO about the EU's action on palm-oil based biofuels.¹⁰⁸ Fully private, voluntary standards undertaken by companies and NGOs do not violate WTO rules.

¹⁰⁶ Research interview with water expert with EU experience, under the condition of anonymity, April 2023.

¹⁰⁷ WTO (undated), 'Technical barriers to trade', https://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm.

¹⁰⁸ Reuters (2023), 'Growing tensions between Asian palm oil producers and the European Union', 16 January 2023, <https://www.reuters.com/markets/commodities/growing-tensions-between-asian-palm-oil-producers-european-union-2023-01-13/>; WTO (undated), 'European Union and certain Member states – Certain measures concerning palm oil and oil palm crop-based biofuels', https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds600_e.htm.

Setting market access standards: lessons from forestry

The timber industry has shown the potential impact of setting standards for market access – but also the long timescale needed. The Forest Stewardship Council (FSC) developed standards for sustainable forest management in the 1990s, which were then used in the 2000s to push the UK government to amend the national timber procurement policy to require forestry products to meet FSC sustainability standards.¹⁰⁹ The EU also used similar standards to address import sustainability, setting standards for timber and paper product legality as well as setting up bilateral agreements between timber producing countries and importers. The use of voluntary partnership agreements should ensure that imports of these products meet EU standards, although there are implementation difficulties such as a lack of sufficient monitoring. The EU's new regulation on deforestation-free products, mentioned above, replaces the EU timber legislation, introducing tougher measures to ensure that imports do not result in deforestation.

Banning products that breach importing country standards: the US approach

A more top-down approach to controlling imports that violate national standards involves banning products. The US monitors human rights violations and bans offending products from problem sectors and locations, putting the burden of proof on companies. For example, the 2015 US Trade Facilitation and Trade Enforcement Act prohibits all imports made with forced labour including child and prison labour.¹¹⁰ For certain products and locations, such as tobacco from Malawi, products can only enter the US if the importer can provide compelling evidence that goods were not made with forced labour.

In 2021, the US Government Accountability Office had a positive assessment of the policy's effectiveness to reduce forced labour supply chains but pointed out that supply chain complexity makes flagging forced labour difficult (for example, cotton picked with forced labour may be mixed with other cotton). Another problem is that companies may cut ties with suppliers or avoid reporting violations rather than working to improve conditions. The severing of ties risks offending exporting governments, which may raise the issue at the WTO and could potentially worsen local conditions.¹¹¹ For example, the Government Accountability Office report noted that the US withheld a release order for disposable rubber gloves produced in Malaysia in 2019, which led to workers' employment being terminated. US officials interviewed for the report argued that the US should be 'prepared to support workers who are placed in a position of increased vulnerability as a result of enforcement actions to prevent forced labor'.¹¹²

¹⁰⁹ Kelly et al. (2022), *Triggering market transformation for fair water footprints*.

¹¹⁰ Government Accountability Office (2021), *Forced Labor: CBP Should Improve Communication to Strengthen Trade Enforcement*, <https://www.gao.gov/products/gao-21-259>.

¹¹¹ Ibid., p. 31.

¹¹² Ibid.

Steps towards market access standards

The development and application of environmental, social and governance (ESG) standards could address the issues of virtual water. Ideally, these would follow the example of the timber industry, moving from initially voluntary standards to market access rules. In the long term, such standards could be incorporated into trade agreements with water-stressed countries. These standards should also cover social sustainability aspects, for example working conditions and pay, as there are known cases of suppliers making up for environmental costs by cutting corners on labour, such as in the wine industry.¹¹³ Special attention should also be paid to supply chains with uneven power relationships such as that of tobacco.¹¹⁴

In extreme cases of water injustice, countries could expand existing human rights-based approaches to ban goods from locations or sectors that violate the human right to water and sanitation.

In extreme cases of water injustice, countries could expand existing human rights-based approaches to ban goods from locations or sectors that violate the human right to water and sanitation. For example, importers of products from certain high-risk areas could be required to show that they do not use unsustainable water practices that affect the local population's water. Industries where there are patterns of heavy water pollution and industrial accidents such as textiles could be subject to similar requirements. To be effective, incentives should be designed to encourage producers to comply with water sustainability requirements and persuade buyers to work with suppliers rather than cutting them off.

Using trade agreements to encourage sustainability

Preferential trade agreements have increased dramatically since the 1990s, and have begun to include environmental provisions.¹¹⁵ Some studies of trade agreements suggest that these environmental provisions can increase 'green' trade and reduce 'dirty' exports from developing countries.¹¹⁶ Other studies show a more complicated picture: for example, the Peruvian government agreed to reduce

¹¹³ Ponte, S. (2020), 'The hidden costs of environmental upgrading in global value chains', *Review of International Political Economy*, 29(3), pp. 818–843, <https://doi.org/10.1080/09692290.2020.1816199>.

¹¹⁴ For further information on labour risks in tobacco supply chains, see Ramos, R. K. (2018), 'Child Labor in Global Tobacco Production: A Human Rights Approach to an Enduring Dilemma', *Health and Human Rights Journal*, 20(2), pp. 235–248.

¹¹⁵ Morin, J. F., Blümer, D., Brandi, C. and Berger, A. (2019), 'Kick-starting diffusion: Explaining the varying frequency of preferential trade agreements' environmental provisions by their initial conditions', *The World Economy*, 42(9), pp. 2602–2628, <https://doi.org/10.1111/twec.12822>.

¹¹⁶ Brandi, C. (2020), 'Do environmental provisions in trade agreements make exports from developing countries greener?', *World Development*, 129, <https://www.sciencedirect.com/science/article/pii/S0305750X20300255>.

illegal logging in the 2009 US–Peru Trade Promotion Agreement, but researchers using satellite data have shown that deforestation has increased (although not more than in other Amazonian countries).¹¹⁷

Sustainability in EU trade agreements

As a major importer of goods – worth over €3 trillion in 2022¹¹⁸ – the EU aims to address the negative international effects of its consumption on the environment by including sustainability in its preferential trade agreements.¹¹⁹ Since 2010, its trade agreements have included trade and sustainable development chapters with sustainability impact assessments. The coverage of these assessments varies, for example, the sustainability impact assessment in the EU–South Korea trade agreement does not cover agribusinesses. There are several weaknesses in these assessments including the lack of coverage of environmental issues such as deforestation and fishing, weaker dispute settlement mechanisms, the inability to enforce penalties in the case of non-compliance, and a lack of consequences for violations or withdrawal from multilateral environmental agreements.¹²⁰

Sustainability in UK trade agreements

The UK also includes environmental provisions in its trade agreements, which vary for different partners. For example, the environment chapter of the 2023 Australia–UK agreement does not include freshwater provisions and only addresses water when it comes to marine environment impacts due to shipping, fishing and marine litter.¹²¹ Other trade agreements are more advanced on dispute settlement including the 2022 New Zealand–UK trade agreement, which includes a dispute settlement mechanism for environmental commitments, including those that can impact water ecosystems such as fishing and forestry.¹²² The agreement includes details on how disputes will be adjudicated, such as reporting panels to assess compliance and recommend solutions. To monitor and implement these chapters, the UK has set up a group with industry and civil society including, among others, the WWF and UK Fashion and Textile Association.¹²³

When it comes to trade with developing countries, the UK’s 2023 Developing Countries Trading Scheme (DCTS) gives 47 least-developed countries (LDCs) comprehensive preferences, i.e. few barriers to trade, and it extends further

¹¹⁷ Peinhardt, C., Kim, A. A. and Pavon-Harr, V. (2019), ‘Deforestation and the United States–Peru trade promotion agreement’, *Global Environmental Politics*, 19(1), pp. 53–76, https://doi.org/10.1162/glep_a_00498.

¹¹⁸ O’Neill, A. (2023), ‘European Union: Import of goods from 2012 to 2022’, Statista, <https://www.statista.com/statistics/253584/import-of-goods-to-the-eu>.

¹¹⁹ Blot, E. and Kettunen, M. (2021), *Environmental credentials of EU trade policy – A comparative analysis of EU free trade agreements*, Institute for European Environmental Policy, <https://ieep.eu/publications/environmental-credentials-of-eu-trade-policy>.

¹²⁰ Blot, E., Oger, A. and Harrison, J. (2022), *Enhancing sustainability in EU Free Trade Agreements: The case for a holistic approach*, Institute for European Environmental Policy, <https://ieep.eu/publications/enhancing-sustainability-in-eu-free-trade-agreements-the-case-for-a-holistic-approach>.

¹²¹ UK Government (2023), ‘UK–Australia Free Trade Agreement’, <https://www.gov.uk/government/collections/uk-australia-free-trade-agreement>.

¹²² Department for International Trade (undated), ‘Environment, Climate Change, and Sustainability in the UK–New Zealand Free Trade Agreement’, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1057637/uk-new-zealand-free-trade-agreement-environment-climate-change-and-sustainability-explainer.pdf.

¹²³ Department for Business and Trade and Department for International Trade (2022), *Trade and Sustainable Development Domestic Advisory Group: Meeting agendas and minutes*, <https://www.gov.uk/government/publications/trade-and-sustainable-development-domestic-advisory-group-tds-dag-meeting-agendas-and-minutes>.

preferences to 18 further low-income countries.¹²⁴ The DCTS removes previous requirements for countries to ratify and implement international environmental conventions but retains the right to suspend a country due to human rights and labour rights violations, as well as violations of anti-corruption, climate and environmental conventions.

To understand how international trade affects local water use, the next two chapters examine water-trade linkages in Malawi and Morocco. Malawi and Morocco were chosen because of their water stress and their trade with the UK and the EU. The case studies explore how trade partner policy measures, such as disclosure and import standards, can influence water sustainability.

¹²⁴ Department for Business and Trade (2023), 'Developing Countries Trading Scheme', <https://www.gov.uk/government/collections/trading-with-developing-nations>.

04

Case study:

Malawi

Malawi's agricultural and energy needs are intensifying deforestation and water stress in the country. While current UK policies have little impact on these dynamics, the 2021 Environment Act has some potential to make a difference.

National water challenges

Malawi is highly dependent on the export of unprocessed agricultural products such as tobacco, tea and coffee, which make up around one-fourth of the country's GDP. While water is physically plentiful, water systems have come under pressure from pollution and deforestation, and the country is vulnerable to extreme weather events.

The Malawian government has prioritized the development of water management plans, including a climate resilient water security plan, and worked with the Alliance for Global Water Adaptation. Under the country's legislation, major projects in agriculture, infrastructure, energy, industry, mining and forestry must comply with national guidelines for environmental impact assessments (EIA). The Malawi Environment Protection Authority (MEPA) monitors pollution and conducts audits of projects for compliance with environmental standards. It has the authority to issue fines and order polluters to cease operations. However, MEPA has limited resources and few environmental auditors to carry out assessments.¹²⁵ The governing body of the country's National Water Resource Authority (NWRA) and regional water boards monitor water rights and use, and they have the power to cancel licences for violations. Studies by Water Witness International and the Alliance for Water Stewardship (AWS) Africa show that the NWRA faces severe capacity and

¹²⁵ Interview with Malawi water expert, under the condition of anonymity, May 2023.

resource constraints, sometimes requiring financial contributions from companies under inspection to do its work, which adds to costs for stakeholders and heightens risks of vested interests affecting state intervention.¹²⁶

Table 2. Malawi’s key statistics

Human Development Index (HDI)	0.512 (2021) ¹²⁷
Population	20.4 million (2022), annual growth rate of 2.6 per cent ¹²⁸
Food systems	Rain-fed agriculture, subsistence farming and food insecurity
Energy systems	Low electricity access (14.9 per cent overall, up to 54 per cent in urban areas), mainly from hydropower (69 per cent), which is at risk from natural disasters. ¹²⁹ Charcoal and wood used for heat and cooking.
Water, sanitation and health	Basic water delivery 70 per cent, sanitation access 27 per cent (2022) ¹³⁰
Water stress	Freshwater withdrawal as a proportion of available freshwater resources: 17.5 per cent (2020) ¹³¹
Water stressors and climate risks	Pollution, deforestation, droughts and floods ¹³²
Export markets	UK, EU, Russia, United Arab Emirates (UAE), Egypt, South Africa ¹³³
Exports	Unprocessed agricultural products (tobacco, coffee, tea), minerals ¹³⁴

Source: Compiled by the authors, see footnotes for specific references.

Infrastructure development – from transportation to energy – is an important national priority.¹³⁵ Households rely on charcoal and firewood for cooking and heating, which is a major factor driving deforestation.¹³⁶ Such deforestation negatively impacts water resources, resulting in intensified flooding, landslides, lower hydropower productivity, and lower soil fertility and water retention for

¹²⁶ Water Witness International (undated), *Water Stewardship Malawi: Implementing the Alliance for Water Stewardship Standard at Kaombe Estate*, <https://static1.squarespace.com/static/5baa3175bfba3e44386d68a5/t/5d65250953f97300010d8658/1566909709521/Kaombe+case+study+learning+report+-+final.pdf>.

¹²⁷ UNDP (2022), *Human Development Report 2021-2022*, <https://www.undp.org/malawi/publications/human-development-report-2021-22>.

¹²⁸ The World Bank (undated), ‘Malawi’, <https://www.worldbank.org/en/country/malawi/overview>.

¹²⁹ ITA (2022), ‘Malawi – Country Commercial Guide: Market Challenges’, <https://www.trade.gov/country-commercial-guides/malawi-market-challenges>.

¹³⁰ Sanitation and Water for All (2022), ‘Malawi’s New Ministry for Water and Sanitation Launches a Bold Agenda’, 20 June 2022, <https://www.sanitationandwaterforall.org/news/malawis-new-ministry-water-and-sanitation-launches-bold-agenda>.

¹³¹ The World Bank (undated), ‘Level of water stress: freshwater withdrawal as a proportion of available freshwater resources – Malawi’, <https://data.worldbank.org/indicator/ER.H2O.FWST.ZS?locations=MW>.

¹³² The World Bank (undated), ‘Malawi’.

¹³³ ITA (2022), ‘Malawi – Country Commercial Guide: Market Challenges’.

¹³⁴ Ibid.

¹³⁵ Government of Malawi (2017), *The Malawi Growth and Development Strategy III (2017-2022)*, <https://faolex.fao.org/docs/pdf/mlw171685.pdf>.

¹³⁶ Reyta, K. (2017), ‘Malawi Turns a Corner on Solving Its Deforestation Crisis’, World Resources Institute, <https://www.wri.org/insights/malawi-turns-corner-solving-its-deforestation-crisis>.

farmers, thereby increasing food insecurity.¹³⁷ The government aims to tackle deforestation with amendments to the Forestry Act, which require forest management plans and licences for charcoal as well as the prosecution of cases of illegal deforestation, supported by international partners including the UK.¹³⁸

Droughts and floods are a further challenge that worsen critical issues. Major floods have killed hundreds and destroyed livelihoods, leading to displacement, sanitation problems and energy outages.¹³⁹ Floods and droughts are the main cause of chronic food insecurity issues in Malawi, which will worsen with climate change if rainy seasons grow shorter and maize cultivation fails. Irregular and extreme weather is causing GDP losses of 1 per cent every year,¹⁴⁰ posing a serious problem for Malawi's export-oriented agricultural industry.

Agriculture

While agricultural products, such as tobacco, make up 60 per cent of Malawi's export earnings,¹⁴¹ these industries have put a strain on the country's water systems. A typical cigarette's water footprint is around 3.7 litres, a large proportion of this amount is from the tobacco cultivation and curing processes.¹⁴² Tobacco drives deforestation through land cleared for crops and wood used as fuel to cure tobacco. Furthermore, pollution from pesticides used on these crops causes direct harms to humans and ecosystems.¹⁴³

Improving the sustainability of the tobacco industry is difficult because of its uneven power relations. This factor has traditionally allowed buyers to set low prices (as little as \$0.50 per kilogram).¹⁴⁴ Although it is difficult to find consistent data on tobacco pricing, one analysis notes that Malawi's average tobacco auction price tends to be lower than the global price due to national conditions including the monopolistic market structure.¹⁴⁵ A 2014 study found that Alliance

¹³⁷ Bradshaw, C. et al. (2007), 'Global evidence that deforestation amplifies flood risk and severity in the developing world', *Global Change Biology*, 13(11), pp. 2379–2395, <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2486.2007.01446.x>; see also De la Paix, M. J. et al. (2013), 'Soil degradation and altered flood risk as a consequence of deforestation', *Land Degradation & Development*, 24(5), pp. 478–485, <https://onlinelibrary.wiley.com/doi/full/10.1002/ldr.1147>.

¹³⁸ USAID and FCDO (2021), *Modern Cooking for Healthy Forests in Malawi, Second Quarter Report (January-March 2021)*, https://pdf.usaid.gov/pdf_docs/PA00XKRW.pdf.

¹³⁹ Mutsaka, F. (2023), 'Appalling': Southern Africa counts toll of Cyclone Freddy', Associated Press, 23 March 2023, <https://apnews.com/article/climate-change-cyclone-freddy-malawi-mozambique-3eea4165dbf5ed7b2ee52b0357159a94>.

¹⁴⁰ Climate Change Knowledge Portal (undated), 'Malawi', <https://climateknowledgeportal.worldbank.org/country/malawi/vulnerability>.

¹⁴¹ International Trade Administration (2022), 'Malawi- Country Commercial Guide', <https://www.trade.gov/country-commercial-guides/malawi-market-overview>.

¹⁴² Zafeiridou, M., Hopkinson, N. and Voulvoulis, N. (2018), 'Cigarette Smoking: An Assessment of Tobacco's Global Environmental Footprint Across Its Entire Supply Chain', *Environmental Science & Technology*, 52(15), pp. 8087–8094, <https://doi.org/10.1021/acs.est.8b01533>.

¹⁴³ Kulik, M. C., Bialous, S. A., Munthali, S. and Max, W. (2017), 'Tobacco growing and the sustainable development goals, Malawi', *Bulletin of the World Health Organization*, 95(5), pp. 362–367, <https://doi.org/10.2471/BLT.16.175596>.

¹⁴⁴ VOA (2021), 'Malawi President Proposes Switch from Growing Tobacco', 20 April 2021, https://www.voanews.com/a/africa_malawi-president-proposes-switch-growing-tobacco/6204828.html;
FAO (2014), *Technical note: Analysis of price incentives for tobacco in Malawi 2005–2013*, https://www.fao.org/fileadmin/templates/mafap/documents/technical_notes/MALAWI/2005-2013/Malawi_TN_tobacco_web_review.pdf.

¹⁴⁵ FAO (2014), *Technical note: Analysis of price incentives for tobacco in Malawi 2005–2013*, p. 36, https://www.fao.org/fileadmin/templates/mafap/documents/technical_notes/MALAWI/2005-2013/Malawi_TN_tobacco_web_review.pdf.

One International and Limbe Leaf Tobacco Company are major players in the Malawi market, British American Tobacco is a key customer for both companies. British American Tobacco is estimated to control 90 per cent of Malawi's tobacco market.¹⁴⁶ Most farmers (around 80 per cent) contract directly with leaf-buying companies, which strengthens the control of large companies and their oversight of supply chains.¹⁴⁷ However, legislation in importing countries relating to practices in the locations of production has been deployed in the case of tobacco, affecting market access. In 2019, US Customs and Border Protection suspended Malawian tobacco imports, 'based on information collected by the agency that reasonably indicates the tobacco from Malawi is produced using forced labor and forced child labor'.¹⁴⁸

Tea and cocoa are also important exports, but supply chains are also buyer-driven, making it difficult for smaller producers to raise their prices.¹⁴⁹ Other important sources for agricultural diversification of exports include beans, groundnuts and macadamia nuts.¹⁵⁰ Some macadamia plantations in Malawi require the construction of further water infrastructure that may conflict with local water needs, although such plantations are less water-intensive than tobacco.¹⁵¹

Mining

The government has also announced its plans to expand the extractive industries sector, which currently makes up around 1 per cent of GDP and includes phosphate, uranium, iron and precious stones, with explorations for rare earth and niobium underway.¹⁵² Artisanal mining – mostly individuals mining without mechanization – is also present in Malawi, impacting water pollution and deforestation. However, its impacts are hard to quantify as it is informal and sometimes illegal.¹⁵³

According to a 2016 investigation by Human Rights Watch, mining has a negative impact on water access and causes environmental harms for local communities, disproportionately impacting women. Human Rights Watch also notes that the three major companies operating in Malawi at the time (Paladin, Eland and Malcoal)

¹⁴⁶ Otañez, M. and Graen, L. (2014), "Gentlemen, Why Not Suppress the Prices?": Global Leaf Demand and Rural Livelihoods in Malawi', *Tobacco Control and Tobacco Farming: Separating Myth from Reality*, pp. 61–96, https://www.researchgate.net/publication/329220762_Gentlemen_Why_not_Suppress_the_Prices_Global_Leaf_Demand_and_Rural_Livelihoods_in_Malawi; See also Prowse, M. (2013), 'A history of tobacco production and marketing in Malawi, 1890–2010', *Journal of Eastern African Studies*, 7(4), pp. 691–712, <https://doi.org/10.1080/17531055.2013.805077>.

¹⁴⁷ Otañez and Graen (2014), "Gentlemen, why not suppress the prices?"

¹⁴⁸ US Customs and Border Protection (2019), 'CBP Issues Withhold Release Order on Tobacco from Malawi', press release, 11 January 2019, <https://www.cbp.gov/newsroom/national-media-release/cbp-issues-withhold-release-order-tobacco-malawi>.

¹⁴⁹ Gayi, S. K. and Tsowou, K. (2016), *Cocoa industry: Integrating small farmers into the global value chain*, UNEP, https://unctad.org/system/files/official-document/suc2015d4_en.pdf. See also Du Toit, J., Nankhuni, F. J. and Kanyamuka, J. S. (2018), 'Opportunities to Enhance the Competitiveness of Malawi's Tea Industry: Evidence from an Analysis of the Tea Value Chain', *Feed the Future Innovation Lab for Food Security Policy Research Briefs*, University of Minnesota, <https://doi.org/10.22004/ag.econ.279874>.

¹⁵⁰ OEC (2021), 'Nuts, edible: macadamia, fresh or dried, shelled: 080262', <https://oec.world/en/profile/hs/nuts-edible-macadamia-fresh-or-dried-shelled>.

¹⁵¹ Interview with Malawi water expert, under the condition of anonymity, May 2023.

¹⁵² International Trade Association (2022), 'Malawi – Country Commercial Guide', <https://www.trade.gov/country-commercial-guides/malawi-market-overview>. EITI (2023), 'Country: Malawi', <https://eiti.org/countries/malawi>.

¹⁵³ OECD (undated), 'Artisanal and small-scale gold mining', <https://www.oecd.org/daf/inv/mne/artisanal-small-scale-miner-hub.htm>.

did not disclose their environmental impacts.¹⁵⁴ Companies are required by law to disclose environmental impacts. Since the HRW report was published, MEPA has taken over auditing such projects and is said to be increasing its capacity and scrutiny of projects.¹⁵⁵

Trade and virtual water

Malawi's main exports are agricultural commodities, and in 2020 its top export markets were Belgium and the UK.¹⁵⁶ International partners aim to promote trade for economic development in Malawi, such as the Fairtrade Foundation, but have faced implementation barriers and require support for capacity development, technical exchanges and traceability.¹⁵⁷ Transparency is an especially important concern for Malawi, given issues with child labour in the supply chains of its main commodities.¹⁵⁸

The main exports to the UK from Malawi in 2022 were agricultural products including coffee, tea, cocoa, sugar, fruit and vegetables.¹⁵⁹ As an LDC, Malawi has comprehensive preferences under the UK Developing Countries Trading Scheme (DCTS), which came into force in June 2023, meaning there are no import tariffs on Malawian goods entering the UK, except for weapons. Several major UK firms operate in Malawi, including in manufacturing, agriculture, agro-processing and mining.¹⁶⁰

Both the Malawian government and UK partners have highlighted the importance of attracting investment and diversifying exports to compete in regional and global markets.¹⁶¹ Under the DCTS, LDCs like Malawi retain comprehensive preferences for goods like cocoa and sugar, while other trading partners remain subject to tariffs. So far, public statements from Malawi's minister of trade about the DCTS have been largely positive and the scheme is seen as an opportunity to facilitate trade linkages.¹⁶² Given that the DCTS does not have any specific sustainability provisions, it is unclear what increased Malawi–UK trade would mean for sustainable water use.

¹⁵⁴ Human Rights Watch (2016), “They Destroyed Everything”: Mining and Human Rights in Malawi, <https://www.hrw.org/report/2016/09/27/they-destroyed-everything/mining-and-human-rights-malawi>.

¹⁵⁵ Expert communication, under the condition of anonymity, September 2023.

¹⁵⁶ OEC (2020), ‘Malawi/United Kingdom’, <https://oec.world/en/profile/bilateral-country/mwi/partner/gbr?redirect=true>.

¹⁵⁷ Fairtrade (2011), *Taking Root: Fairtrade in Malawi*, https://www.fairtrade.org.uk/wp-content/uploads/legacy/2011_Taking_Root_Fairtrade_in_Malawi.pdf.

¹⁵⁸ ILO (2019), ‘The ILO project will contribute to the elimination of child labour in Malawi’s tea and coffee supply chains’, https://www.ilo.org/africa/technical-cooperation/accel-africa/malawi/WCMS_713147/lang-en/index.htm.

¹⁵⁹ UK Department for International Trade (2022), ‘Trade and Investment Factsheets: Malawi’, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1185699/malawi-trade-and-investment-factsheet-2023-09-21.pdf.

¹⁶⁰ FCDO (2022), ‘Overseas business risk: Malawi’, <https://www.gov.uk/government/publications/overseas-business-risk-malawi/overseas-business-risk-malawi>.

¹⁶¹ FCDO (2023), ‘UK–Malawi development partnership summary, July 2023’, <https://www.gov.uk/government/publications/uk-malawi-development-partnership-summary/uk-malawi-development-partnership-summary-july-2023>.

¹⁶² Malawi Times (2021), ‘Malawi Counts on UK Trade Policy’, 21 July 2021, <https://www.trademarkafrica.com/news/malawi-counts-on-uk-trade-policy>.

Potential policy impacts

Disclosures and due diligence

UK companies that do business in Malawi must comply with the Taskforce on Climate-related Financial Disclosures (TCFD) by documenting their sustainability objectives, progress and management approach. However, the level of detail in these records is insufficient to accurately capture the impacts of UK trade on water issues in Malawi. As the UK Sustainability Disclosure Requirements will only apply to UK investments and do not require detailed disclosure or auditing, they are unlikely to impact water issues in Malawi.

Supply chain governance

If further legislation emerges that includes due diligence and enforcement mechanisms, the UK Environment Act could drive more sustainable practices for imported commodities such as cocoa, coffee and tobacco. Improved legislation could compel UK-based importers of high-risk goods to perform enhanced due diligence, which could help reduce the overall pressure from deforestation on Malawi's water systems and boost flood resilience. However, much will depend on the enforcement mechanisms – if it is not possible to hold companies that violate these standards to account, such policies will likely have lower or no impact.

Improved legislation could compel UK-based importers of high-risk goods to perform enhanced due diligence, which could help reduce the overall pressure from deforestation on Malawi's water systems and boost flood resilience.

The case of child labour and forced labour – still prevalent in Malawi according to UN human rights experts¹⁶³ – is an illustrative case that could provide lessons on how to better influence environmental violations in the export sectors. If strengthened or more rigorously enforced, the UK's Modern Slavery Act could provide a backstop to prevent labour violations in value chains for imported products. The UK government could monitor modern slavery statements and apply for injunctions if companies do not disclose potential hazards when doing business in higher-risk contexts like Malawi. Coordination of labour and sustainability standards would be crucial. Further legislation could mandate more detailed reporting on specific due diligence measures around material environmental risks and ensure third-party auditing.

¹⁶³ UN (2022), 'Malawi: Children working on tobacco farms remain out of school, say UN experts', press release, 21 December 2022, <https://www.ohchr.org/en/press-releases/2022/12/malawi-children-working-tobacco-farms-remain-out-school-say-un-experts>.

Challenges associated with UK trade and policies

If policies increase certification requirements and international standards, smaller businesses in Malawi may struggle to comply with the additional red tape. In the past, increased costs associated with stricter standards have presented barriers to participation in voluntary initiatives like Fairtrade.¹⁶⁴ Public bodies such as MEPA may also face resource challenges to enforce additional standards. To counter this, the UK government could support capacity-building measures and increase engagement in development assistance for water sustainability. The UK could scale up and expand existing engagement in energy access and deforestation prevention programmes, as well as initiatives like Water Tracker that support water management planning.¹⁶⁵

¹⁶⁴ Fairtrade (2011), *Taking Root: Fairtrade in Malawi*.

¹⁶⁵ Alliance4water (undated), 'Water Tracker for National Climate Planning', <https://www.alliance4water.org/water-tracker-for-national-climate-planning>.

05

Case study:

Morocco

Morocco's exports of textiles, minerals and agricultural products have exacerbated the country's water stress. EU policies may begin to address this unsustainable water use but not without political risks.

National water challenges

Morocco is a key trade partner of several European countries, exporting agricultural commodities as well as fertilizers and textiles. Climate change is increasingly impacting the country's water resources, resulting in crop failure and unproductive rangelands, as well as triggering societal consequences like food and economic insecurity.¹⁶⁶

Morocco has pushed recognition of water as a human right at the UN,¹⁶⁷ and the country takes a human rights approach to water in its national laws.¹⁶⁸ It has an advanced national framework for sustainable water use, and water scarcity is a key priority in national policies and action plans. For example, the National Water Plan aims to invest nearly \$40 billion into the water sector, including searching for new groundwater and increasing desalinization efforts. In addition, the establishment of a new National Agency for Water and Forests also shows the importance of addressing deforestation and desertification.

¹⁶⁶ World Bank Group (2021), *Country Risk Profile: Morocco*, https://climateknowledgeportal.worldbank.org/sites/default/files/2021-09/15725-WB_Morocco%20Country%20Profile-WEB.pdf.

¹⁶⁷ Hamann, J. (2021), 'Morocco-Sponsored UN Resolution Makes Clean Environment a Human Right', *Morocco World News*, 9 October 2021, <https://www.morocoworldnews.com/2021/10/344850/morocco-sponsored-un-resolution-makes-clean-environment-a-human-right>.

¹⁶⁸ Satterthwaite, M. (2020), 'Assessing the Rights to Water and Sanitation: Between Institutionalization and Radicalization', *Georgetown Journal of International Affairs*, 52, p. 315, https://www.researchgate.net/publication/353017831_Assessing_the_Rights_to_Water_and_Sanitation_Between_Institutionalization_and_Radicalization_Geo_J_Int%271_L.

Table 3. Morocco key statistics

Human Development Index	0.683 (2021) ¹⁶⁹
Population	37 million (2022), projected growth to 66.4 million (2030) ¹⁷⁰
Food systems	Large-scale and subsistence agriculture, rain-fed and irrigated
Energy systems	100 per cent electricity access, 98 per cent clean cooking access (2021) ¹⁷¹
Water, sanitation hygiene	80 per cent of population have access to safe drinking water, around 47 per cent in rural areas; 61 per cent use a safely managed sanitation facility (2022) ¹⁷²
Water stress	Freshwater withdrawal as a proportion of available freshwater resources: 50.75 per cent (2020) ¹⁷³
Water stressors and climate risks	Droughts, extreme heat, flooding
Export markets	EU, India, Brazil, US ¹⁷⁴
Exports	Fertilizers, metals, agricultural products and textiles

Source: Compiled by the authors, see footnotes for specific references.

Due to climate change, Morocco faces increased rainfall, flooding, hotter temperatures and extended droughts. Climate change also threatens the coastline, where most economic activities take place – around 42 per cent of the coast is at risk from erosion and flooding.¹⁷⁵ Morocco’s high exposure to climate risks has the potential to reduce the country’s available resources to deal with sustainability issues, as the negative effects of nature loss – including impacts on trade, the economy and credit ratings – may influence the government’s ability to borrow money (see Figure 2).¹⁷⁶ Researchers have also raised the potential risk of water scarcity resulting in conflicts.¹⁷⁷ This heightens the urgency for Morocco to address the water footprint of its economic activities, which is directly linked to trade.

¹⁶⁹ UNDP (undated), ‘Human Development Reports: Morocco’, <https://hdr.undp.org/data-center/specific-country-data#/countries/MAR>.

¹⁷⁰ World Bank Group (2021), *Climate Risk Country Profile: Morocco*, https://climateknowledgeportal.worldbank.org/sites/default/files/2021-09/15725-WB_Morocco%20Country%20Profile-WEB.pdf.

¹⁷¹ World Bank (undated), ‘Access to electricity (% of population) – Morocco’, <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=MA>; World Bank (undated), ‘Access to clean fuels and technologies for cooking (% of population) – Morocco’, <https://data.worldbank.org/indicator/EG.CFT.ACCS.ZS?locations=MA>.

¹⁷² Safely managed sanitation facilities are defined as improved facilities that are not shared with other households and where excreta are safely disposed in situ or transported and treated off-site. UN Water (undated), ‘Morocco’, <https://www.sdg6data.org/en/country-or-area/morocco>.

¹⁷³ World Bank (undated), ‘Level of water stress: freshwater withdrawal as a proportion of available freshwater resources – Morocco’, <https://data.worldbank.org/indicator/ER.H2O.FWST.ZS?locations=MA>.

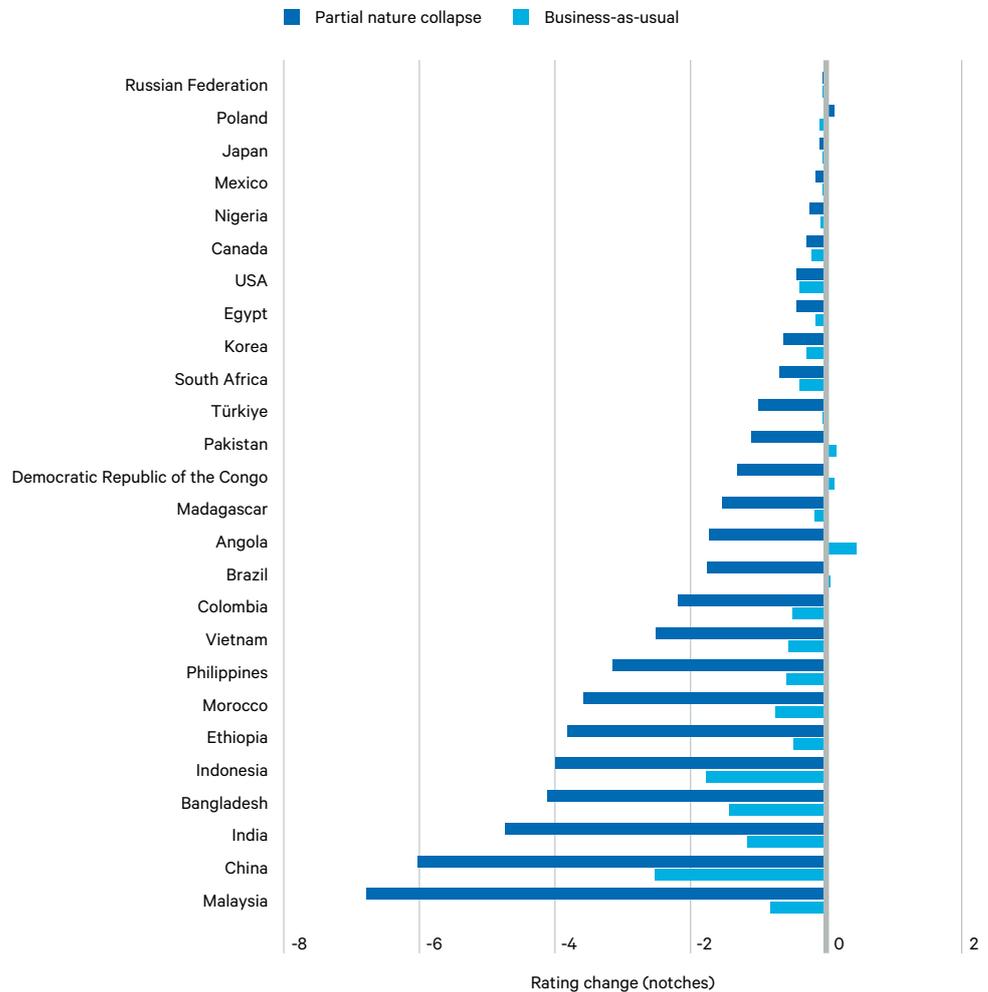
¹⁷⁴ World Integrated Trade Solutions (2021), ‘Morocco Trade Summary 2021’, <https://wits.worldbank.org/CountryProfile/en/Country/MAR/Year/2021/Summarytext>.

¹⁷⁵ Global Facility for Disaster Reduction and Recovery (2018), ‘Integrated Disaster Risk Management in Morocco: Managing risk by rewarding results’, <https://www.gfdr.org/sites/default/files/publication/FINAL%20-%20Results%20in%20Resilience%20-%20Integrated%20Disaster%20Risk%20Management%20in%20Morocco%20-%2024.24.18.pdf>.

¹⁷⁶ These estimates are taken from Agarwala et al., who base their estimates on World Bank scenarios for partial ecosystem collapse (or tipping point) scenario and the business-as-usual scenario, compared with the no-further-loss-of-nature scenario. Further information on the models used can be found on pp. 19–22 of Agarwala, M. et al. (2022), *Nature Loss and Sovereign Credit Ratings*, Finance for Biodiversity Initiative, <https://www.bennettinstitute.cam.ac.uk/wp-content/uploads/2022/06/NatureLossSovereignCreditRatings.pdf>.

¹⁷⁷ Bourekba, M. (2021), *Climate Change and Violent Extremism in North Africa*, <https://www.cascades.eu/wp-content/uploads/2021/10/CASACADES-Case-Study-Violent-extremism-and-climate-change-in-North-Africa-Moussa-Bourekba-CIDOB-Oct-2021.pdf>.

Figure 2. Estimated credit rating changes for selected states under partial nature collapse and BAU by 2030, were biodiversity- and nature-related risks to be incorporated into sovereign risk assessments



Source: Agarwala, M. et al. (2022), *Nature Loss and Sovereign Credit Ratings*, p. 5.

Textiles

Morocco has some of the highest valued textile exports on the African continent, and many major brands source from Morocco including Zara, Primark, H&M, Walmart and Tesco.¹⁷⁸ Small and medium-sized enterprises (SMEs) are also important actors in the textiles sector and make up a significant share of the workforce. The government sees the sector as important for investment and job creation.¹⁷⁹ In 2019, the textile and apparel industry employed around

¹⁷⁸ Hepworth (2021), *Tackling the Global Water Crisis*.

¹⁷⁹ Approximately 25 per cent of Morocco's workforce is employed in SMEs, and these are particularly concentrated in the textile sector (24–35 per cent of micro, small and medium-sized enterprises are in textiles). See Ayadi, R. (2012), *Small and Medium Sized Enterprises (SMEs) in the Southern Mediterranean*, p. 9, [https://www.europarl.europa.eu/RegData/etudes/etudes/join/2012/433747/EXPO-INTA_ET\(2012\)433747_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/etudes/join/2012/433747/EXPO-INTA_ET(2012)433747_EN.pdf); Aldaz, M. (2021), 'Morocco aims to strengthen and boost growth textile sector', Atalayar, 2 November 2021, <https://atalayar.com/en/content/morocco-aims-strengthen-and-boost-growth-textile-sector>.

195,000 people.¹⁸⁰ This fell due to the outbreak of the COVID-19 pandemic in 2020, disproportionately impacting women who were traditionally employed in this industry.¹⁸¹ Most of Morocco's water footprint from textiles is from manufacturing, and the resulting wastewater causes pollution.¹⁸²

The Moroccan case also shows how a mix of national regulation and assistance from importing markets can improve industrial water use. Data on pollution levels from the textile industry is limited, but a UN Economic Commission for Europe report from 2014 suggested that textiles and leather generated around 42 per cent of pollution in the Tangier-Tetouan region. In 2017, the government adopted standards for water quality and implemented limits on liquid discharges for industries including textiles.¹⁸³ This has forced companies to reduce pollution and in at least one case, led to a factory installing its own wastewater treatment plant. The European Commission supported the latter under the Ligne Bleue,¹⁸⁴ a programme to support wastewater treatment projects for water intensive industries in Morocco, and the plant received EU development bank financing.¹⁸⁵ Overall, Morocco increased the proportion of treated wastewater from 25 per cent in 2016 to 45 per cent in 2022.¹⁸⁶

Agriculture

The Green Morocco Plan (2008) promoted the country's agricultural exports and expanded drip irrigation systems.¹⁸⁷ However, research suggests that while drip irrigation improved agricultural productivity and revenues, it may have increased pressure on water. This is because farmers switched to grow higher-value (and more water-intensive) products such as tomatoes and cucumbers.¹⁸⁸ The needs of agriculture and energy have driven deforestation,¹⁸⁹ although some studies suggest more deforestation is due to subsistence agriculture.¹⁹⁰

¹⁸⁰ Textile World (2021), 'Morocco's Textile And Apparel Industry Association AMITH Joins ITMF', 2 June 2021, <https://www.textileworld.com/textile-world/supplier-notes/2021/06/amith-moroccos-textile-and-apparel-industry-association-joins-itmf>.

¹⁸¹ World Bank (2021), 'Employment prospects for Moroccans', <https://www.worldbank.org/en/news/feature/2021/03/30/employment-prospects-for-moroccans-diagnosing-the-barriers-to-good-jobs>.

¹⁸² Alhamed, H., Biad, M., Saad, S. and Masaki, M. (2018), *Business Opportunities Report for Reuse of Wastewater in Morocco*, Netherlands Enterprise Agency, <https://www.rvo.nl/sites/default/files/2018/06/Business-opportunities-report-for-reuse-of-wastewater-in-morocco.pdf>.

¹⁸³ UN (2021), *Morocco Environmental Performance Review: Second Review*, Environmental Performance Reviews Series No. 54, https://unece.org/sites/default/files/2023-01/ECE_CEP_191_E.pdf.

¹⁸⁴ European Investment Bank (2017), 'BMCE Ligne Bleue', <https://www.eib.org/projects/pipelines/all/20160852>.

¹⁸⁵ Rachidi, D. C. (2023), 'Blue water, green future', European Investment Bank, <https://www.eib.org/en/stories/morocco-textile-pollution-sustainability>.

¹⁸⁶ United Nations (undated), 'Progress on Wastewater Treatment (SDG target 6.3)', <https://www.sdg6data.org/en/indicator/6.3.1>.

¹⁸⁷ Agency for Agricultural Development Morocco (undated), 'Main achievements of the green Morocco Plan', <https://www.ada.gov.ma/en/main-achievements-green-morocco-plan>.

¹⁸⁸ Molle, F. and Tanouti, O. (2017), 'Squaring the circle: Agricultural intensification vs. water conservation in Morocco', *Agricultural Water Management*, 192, pp. 170–179, <https://doi.org/10.1016/j.agwat.2017.07.009>.

¹⁸⁹ World Bank Group (2021), 'Country Risk Profile: Morocco'.

¹⁹⁰ Boubekraoui et al. (2023), 'Spatio-temporal analysis and identification of deforestation hotspots in the Moroccan western Rif', *Trees, Forests and People*, 12, p. 100388, <https://doi.org/10.1016/j.tfp.2023.100388>.

The number of those employed in the agricultural sector has increased in recent years, with fishing and forestry together employing 45 per cent of the sector's workers.¹⁹¹ The agricultural sector is even more important in rural areas, where agriculture accounts for around 75 per cent of jobs. As a result, droughts can have significant impacts on crops and GDP. The country continues to promote the agricultural sector, and a new agricultural plan for 2020–30 called Generation Green aims to double exports by 2030. High-value exports such as avocados, watermelons and citrus were initially given special subsidies under this plan, but these have been removed in part due to tensions around water scarcity.¹⁹² As the pressure on water resources from agriculture increases, some studies show that groundwater in certain coastal aquifers is already inadequate for irrigation due to nitrification and salinization.¹⁹³ Water scarcity has already become a social problem, for example, in 2017 there were so-called 'thirsty protests' about water shortages from agriculture in rural areas.¹⁹⁴

Mining

Water pollution is prevalent from the extraction and processing of minerals, especially from phosphate mines.¹⁹⁵ While Morocco's mining law requires national or regional committees to review environmental impact studies, and environmental regulations exist for waste management and wastewater,¹⁹⁶ there are not yet equivalent, stringent standards for water quality and discharges for the mining industry as there are for other sectors like textiles.¹⁹⁷ International bodies working on mining have found that there is a lack of accountability. For example, there is no licensing process for phosphate mining and some research suggests that environmental and social protections may have worsened since 2017.¹⁹⁸ Mining pollution has resulted in complaints from locals who are left without sufficient water for day-to-day needs and agriculture.¹⁹⁹ Morocco is also among the 10 most at-risk countries of suffering mining-related water hazards that can affect water quality and scarcity, as well as result in flooding.²⁰⁰

¹⁹¹ International Trade Administration (2022), 'Morocco Country Commercial Guide', <https://www.trade.gov/morocco-country-commercial-guide>.

¹⁹² Zouiten, S. (2022), 'Morocco Ends Subsidy on Avocado, Watermelon Cultivation Amid Water Crisis', Morocco World News, 28 September 2022, <https://www.morocoworldnews.com/2022/09/351563/morocco-ends-subsidy-on-avocado-watermelon-cultivation-amid-water-crisis>.

¹⁹³ Ez-zaouy, Y. et al. (2022), 'Groundwater Resources in Moroccan Coastal Aquifers: Insights of Salinization Impact on Agriculture', *Environmental Sciences Proceedings*, 16(1), <https://doi.org/10.3390/environsciproc2022016048>.

¹⁹⁴ Arab News (2017), "'Thirsty protests' hit Morocco over water shortages", 15 October 2017, <https://www.arabnews.com/node/1178076/middle-east>.

¹⁹⁵ UN (2021), *Morocco Environmental Performance Review: Second Review*, Environmental Performance Reviews Series No. 54, p. 341, https://unece.org/sites/default/files/2023-01/ECE_CEP_191_E.pdf.

¹⁹⁶ Bentaibi, W. and Pape, B. (2001), 'Mining in Morocco: overview', <https://uk.practicalcallaw.thomsonreuters.com/w-018-4123>.

¹⁹⁷ United States Department of Commerce (2021), 'Issues and Decision Memorandum for the Final Affirmative Determination of the Countervailing Duty Investigation of Phosphate Fertilizers from the Kingdom of Morocco', memorandum, <https://access.trade.gov/Resources/frn/summary/morocco/2021-03011-1.pdf>.

¹⁹⁸ National Resource Governance Institute (2021), *2021 Resource Governance Index: Morocco (Mining)*, <https://resourcegovernance.org/analysis-tools/publications/2021-resource-governance-index-morocco-mining>.

¹⁹⁹ Kerr, T. (2019), 'Villagers in Morocco Demand Return of Their Land after Mining Pollution', Morocco World News, 1 June 2019, <https://www.morocoworldnews.com/2019/06/274793/villagers-morocco-land-mining-pollution>.

²⁰⁰ Morgan and Dobson (2020), *An analysis of water risk in the mining sector*.

Trade and virtual water

Morocco's main trade partner is the EU, which was the destination for 64 per cent of its exports in 2019. The country's exports to the rest of the world are comparatively smaller (for example 4 per cent to India, 3 per cent to both Brazil and the US).²⁰¹ Trade is a politically sensitive topic because of the issue of goods originating in the Western Sahara. Control of the Western Sahara was disputed from 1975 to 1991, when a ceasefire was agreed between Morocco and the Polisario Front. Since 2020, tensions have again escalated.²⁰² The Western Sahara is a location of natural resources including phosphate, which is extracted by the Moroccan state-owned company OCP Group.²⁰³ Civil society groups such as Western Sahara Campaign UK have brought legal cases against Morocco–EU and Morocco–UK trade agreements,²⁰⁴ arguing that the agreements were established without the consent of the people of Western Sahara and are therefore in violation of international law.²⁰⁵ While the EU General Court annulled the trade agreement, the European Commission has appealed this judgment²⁰⁶ and the trade agreement remains applicable while the court judgment is under appeal.

Potential policy impacts

Moroccan exports to the EU include textiles, fertilizers and raw materials.²⁰⁷ Planned energy exports from Morocco of green hydrogen to the EU may put further strain on the country's water. The 2013 sustainability impact assessment of Morocco–EU trade highlighted the potential negative impacts of intensified trade on Moroccan water systems including 'a reduction in water resources, soil fertility and biodiversity – particularly in cultivated areas of high stress'.²⁰⁸

Disclosure and due diligence policies

EU regulations, such as the Corporate Sustainability Reporting Directive (CSRD) and proposed Corporate Sustainability Due Diligence Directive (CSDDD), may impact the water footprint of Morocco–EU trade. Firms will be required to disclose supply chain information for audit by a third party. While firms may decide not to disclose information on water use, they must justify this decision, and water-intensive sectors

²⁰¹ OEC (2021), 'Morocco', <https://oec.world/en/profile/country/mar>.

²⁰² Jack, V. (2021), 'Western Sahara's e-war', *The World Today*, <https://www.chathamhouse.org/publications/the-world-today/2021-02/western-saharas-e-war>.

²⁰³ Andres, P. (2023), 'EU-Morocco fisheries deal stuck pending court decision on self-determination claim', Euractiv, 18 July 2023, <https://www.euractiv.com/section/agriculture-food/news/eu-morocco-fisheries-deal-stuck-pending-court-decision-on-self-determination-claim>.

²⁰⁴ Tobin, S. (2022), 'UK group loses legal challenge over Morocco trade agreement', Reuters, 5 December 2022, <https://www.reuters.com/markets/uk-group-loses-legal-challenge-over-morocco-trade-agreement-2022-12-05>.

²⁰⁵ Suleymanova, R. (2021), 'EU court annuls Morocco trade deals over Western Sahara', Al Jazeera, 29 September 2021, <https://www.aljazeera.com/economy/2021/9/29/eu-court-annuls-morocco-trade-deals-over-western-sahara>.

²⁰⁶ EU General Court (2021), 'Judgement of the General Court (Ninth Chamber, Extended Composition): Front Polisario v Council', <https://curia.europa.eu/juris/document/document.jsf?text=&docid=246702&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=3796952>.

²⁰⁷ European Commission (undated), 'Morocco: EU Trade relations with Morocco', https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/morocco_en.

²⁰⁸ CIRCABC (2022), *Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Morocco*, <https://circabc.europa.eu/ui/group/09242a36-a438-40fd-a7af-fe32e36cbd0e/library/dde0bef2-59d2-43db-9721-67fd90b977c9/details>.

such as mining are likely to come under closer scrutiny. This, in turn, could motivate businesses and their suppliers to reduce pollution and over-extraction. However, companies are not required to report on biodiversity and the welfare of contracted workers. Likewise, the EU's sustainability impact assessment estimates that increased Morocco–EU trade could potentially harm biodiversity. If the CSDDD is passed, it may provide an enforcement mechanism for the CSRD and ensure that non-compliant firms receive fines and that victims are compensated for damages.

Box 5. Hydrogen exports from Morocco to Europe

The EU plans to import green hydrogen produced from water and renewable energy. Hydrogen's water footprint is technology-dependent: estimates range between 22 litres and 126 litres of water per kg of hydrogen.²⁰⁹ Water can be recovered if hydrogen is used to create electricity, whereas water cannot be salvaged if hydrogen is used as a feedstock for chemical processes like ammonia production.²¹⁰ Under the EU's hydrogen strategy, the goal is to import 5.6 million tons of hydrogen per year by 2030 from Ukraine and North Africa. Morocco's plentiful renewable energy resources and desalinated water make it well placed to become an exporter of green hydrogen and ammonia.²¹¹

Using the CSRD, companies importing green hydrogen from Morocco could be asked to disclose material impacts on local environments from hydrogen value chains, including coastal desalination and marine transport. As Morocco's energy grid includes large amounts of coal, additional renewable energy would be needed to cover the energy-intensive demand from desalination. There are documented adverse impacts from the desalination process on water ecosystems if facilities dump salt and chemicals back into the ocean,²¹² which could harm local fishing communities. Strict requirements for the disclosure of water impacts resulting from green hydrogen would be an important way to advocate for good water governance.

Under the CSDDD, large companies could be held liable if they do not perform due diligence. For example, if companies do not account for damages to local fishing communities from desalination for hydrogen, EU member state authorities could impose fines and compensate locals for damages.

²⁰⁹ Shi, X., Liao, X. and Li, Y. (2020), 'Quantification of fresh water consumption and scarcity footprints of hydrogen from water electrolysis: A methodology framework', *Renewable Energy*, 154, pp. 786–796, <https://doi.org/10.1016/j.renene.2020.03.026>.

²¹⁰ Beswick, R. R., Oliveira, A. M. and Yan, Y. (2021), 'Does the green hydrogen economy have a water problem?', *ACS Energy Letters*, 6(9), pp. 3167–3169, <https://pubs.acs.org/doi/epdf/10.1021/acsenerylett.1c01375>.

²¹¹ International Trade Administration (2022), 'Morocco – Country Commercial Guide'.

²¹² Doyle, A. (2019), 'Too much salt: water desalination plants harm environment – U.N.', Reuters, 14 January 2019, <https://www.reuters.com/article/us-environment-brine-idUSKCN1P81PX>.

Supply chain governance

The EU new batteries regulation could influence Morocco–EU trade in batteries and minerals such as cobalt, as it requires firms to identify and mitigate the social and environmental risks from extracting, processing and trading raw materials.²¹³ Companies that source cobalt from Morocco should perform due diligence on cobalt mining processes in Morocco and ensure that there are no negative impacts on water systems and the people who depend on them. The EU’s regulation on deforestation-free products is unlikely to have significant impacts in Morocco because most deforestation is not driven by export-oriented agriculture but by smaller-scale subsistence activities.

Challenges associated with EU trade and policies

Most companies involved in Morocco–EU trade are aware of the need to address sustainable procurement due to recent policies. In sectors where there is a requirement for certifications, complying with EU standards is seen as a given. New sectors will need time to adjust. This will be easier for larger EU firms with production in Morocco, which have more financial flexibility and newer facilities.²¹⁴ For SMEs in high-competition, low-margin industries like textiles, improving production processes may be more difficult as they do not have the financial capacity, access to bank loans or the ability to navigate complex bureaucracy to acquire subsidies for water-saving processes and technologies.²¹⁵ The potential for disproportionate impacts on women of sustainability policies should be carefully considered, as around 44 per cent of the country’s working women are employed in the textiles sector.²¹⁶ Another challenge for EU trade policies is that they may worsen tensions over the Western Sahara. King Mohamed VI has publicly stated that, ‘Morocco will never engage in any economic or commercial transaction... in which the Moroccan Sahara is not included’.²¹⁷ As more companies report on their local impacts, it is more likely that complicated political issues, such as the status of the Western Sahara, will emerge.

²¹³ European Commission (2023), ‘Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC’, <http://data.europa.eu/eli/reg/2023/1542/oj>.

²¹⁴ Research interview with expert on Moroccan–European trade, under the condition of anonymity, May 2023.
²¹⁵ Ibid.

²¹⁶ Hespess EN (2023), ‘Regional committees begin field inspections across Moroccan markets amid skyrocketing prices’, 10 February 2023, <https://en.hespess.com/58478-regional-committees-begin-field-inspections-across-moroccan-markets-amid-skyrocketing-prices.html>.

²¹⁷ Fabiani, R. (2022), ‘How EU should use economic influence on Western Sahara’, EUobserver, 3 January 2022, <https://euobserver.com/opinion/153875>.

06 Conclusions

Countries can lessen the water footprints of their trade by promoting supply chain disclosures and due diligence, using standards for market access and addressing water considerations in trade agreements.

Many high-income countries rely on imports from areas with severe water scarcity. As climate change impacts worsen, this dynamic will likely compound environmental and social problems in producer countries – from water and food shortages to social unrest and intensifying conflicts. Business as usual in the trade of water-intensive products will potentially compound supply risks, jeopardize investments and conflict with the commitments of both importers and exporters to peace, development and climate resilience. This research paper shows that businesses, states and citizens concerned about the water footprint of their imports have the capacity to push for more sustainable supply chains that link trade and environmental policy.

Policy options to achieve this include mandatory disclosures and due diligence on the environmental and social impacts of supply chains; the use of standards to promote trade in responsibly sourced goods; and trade agreements that aim to raise sustainability ambition bilaterally. The UK and EU are both beginning to use these mechanisms to different extents, with the EU taking steps that could put it on a path towards greater environmental disclosures and due diligence in global supply chains, including for water. This could enable financial actors and consumers to better understand the risks of a company's strategy or the processes that produce items they consume.

These approaches come with their own trade and political challenges. Reporting can be complex and burdensome especially for smaller firms. Capacity-building in order to comply with new policies is especially important for suppliers in developing countries. In addition, trade is often a politically sensitive topic and policy measures to boost sustainability may be unpopular with international trading partners. Building trust between importers and exporters will be an important long-term diplomatic process running parallel to any trade measures. It is crucial that partners understand that new measures are designed to promote global sustainability and not to protect domestic industries.

The case studies of Morocco–EU and Malawi–UK trade reveal that there are opportunities for importing states to boost transparency and sustainability. In both cases, supply chain governance policies such as disclosure requirements or sector-specific regulations (for example in forest-risk commodities such as palm oil) could explicitly promote sustainable water use for key traded goods. In the longer term, UK and EU trade agreements should follow the example of the 2022 UK–New Zealand trade agreement, which included dispute settlement and enforcement mechanisms to promote environmental measures in trade.

Developing supply chain disclosures and due diligence

The EU, UK and other governments that are interested in developing climate due diligence and disclosure regulations should consider how these can be streamlined and coordinated to lessen the reporting burden. They can also join WTO discussions on the coordination of social and environmental disclosure measures, and the larger question of how to combine trade and climate issues.

UK: Mandate supply chain disclosures and due diligence

The UK Environment Act could lessen pressure on water systems through its attempts to address illegal deforestation in overseas supply chains. However, there is currently insufficient additional legislation to comprehensively achieve this goal. It is therefore necessary to enforce compliance and mandate more detailed disclosure and due diligence, aimed at ensuring that the UK's imports are environmentally and socially sustainable. To give disclosure and due diligence legislation teeth, policies should include enforcement measures for non-compliance and requirements for third-party auditing. Mandatory reporting requirements can also ensure that there is sufficient detail to understand water risks. For example, companies could be asked to disclose basic information such as supplier locations and import volumes. Providing disaggregated data on purchases from water-stressed areas and information about how degrees of water stress are monitored would be one way to begin to understand the water impacts of UK trade. Companies could also be required to record and make publicly available legal complaints or violations brought against them or their suppliers in other jurisdictions.

EU: Strengthening existing environmental reporting and due diligence requirements

The EU's CSRD and CSDDD policies are promising starting places for disclosing environmental impacts of trade and holding firms accountable for non-compliance or harms to victims. Recent setbacks on CSDDD illustrate that these policies are also politically controversial and difficult to implement; to be truly effective, the CSDDD will need to widen its scope beyond the largest companies, particularly in the high-risk areas of agriculture, textiles and mining as had previously been proposed. In the absence of strong EU legislation, ambitious member states may still push forward by making reports on water impacts mandatory

for firms operating in these high-risk sectors. Such legislation could also make reporting mandatory rather than voluntary in areas where the EU has loosened its regulation, such as biodiversity and employment conditions for contracted workers. In addition, the EU's standards for market access that are employed in other high-risk sectors for conflict minerals, batteries and forest commodities could in some cases be used to address water issues when these are related to deforestation and mining.

Support trade partner compliance with disclosure and due diligence standards

Address challenges for local compliance, monitoring and enforcement

Smaller businesses may have more difficulty complying with international standards than larger operations with more resources. Both the case studies of Malawi and Morocco demonstrate that small businesses may struggle to meet certification and audit costs, as well as in getting enough money to invest in more environmentally friendly business models. Additionally, in buyer-driven supply chains, smaller producers also have less power to set prices and may therefore bear the cost burden of compliance. To prevent smaller businesses from dropping out of global supply chains, large buyers and importing country partner agencies should offer compliance support in the form of low-cost training and certification assistance for smaller businesses.

Supply chain governance measures also require monitoring, reporting, verification and enforcement. In developing countries such as Malawi, there are limited local financial and personnel capacities to enforce existing policies. Additional measures such as verifying sustainability claims or prosecuting violations would require extra funding and recruitment, which may not be realistic, nor necessarily a key priority for governments. The UK and EU should aim to balance policies to both push sustainable trade and provide the time and resources needed to make policies workable.

Be aware of the political consequences of due diligence laws

Measures to improve the environmental footprints of traded goods will not always be perceived favourably by trading partners. Taking the example of Morocco, due diligence standards that apply to human rights and sustainability have brought the Western Sahara issue to the forefront, making discussions around disclosure requirements more politically controversial. This in turn has had political implications for Morocco–EU trade. The EU and its member states will therefore have to carefully navigate diplomatic concerns when it comes to implementing trade measures for sustainability. Nevertheless, given that it is a major trading partner for many countries worldwide, the EU should have the sway and flexibility to find acceptable solutions.

Reactions to linking trade and climate policy, like the EU deforestation regulations, show that such measures can be perceived by other countries as protectionist or discriminatory. This highlights the need to take into account the concerns of trading partners in any policy shifts. Existing high-level forums, such as the Trade and Environmental Sustainability Structured Discussions at the WTO, where developing countries are leading dialogues on trade and the environment have a critical role to play in improving engagement between trade partners. Ongoing consultations can help to boost relations with partners for whom water-intensive goods make up a significant share of exports.

Improve environmental measures in trade agreements

The negotiation of bilateral trade agreements between the UK or EU and other countries is an opportunity to set priorities for trade relationships, including the environmental impacts of trade.

This should include enhanced sustainability mechanisms that take into consideration different sectors and allow for dispute settlement, as is the case with the 2022 UK–New Zealand trade agreement, which includes a mechanism for reporting and remedies for non-compliance with environmental commitments. Enhanced sustainability impact assessments that include key water-intensive sectors can provide important information for trade and sustainability policy. This can help to avoid issues like the dynamics in Peru, following the introduction of the Andean Trade Preference Act, where the reduction of tariffs on water-hungry crops like avocados exacerbated water scarcity. In the case of EU trade with Morocco, the 2013 sustainability impact assessment correctly predicted that increased trade with Europe would put pressure on water systems. However, the EU has yet to put in place measures to reduce this pressure.

If the EU or UK is to prioritize water and environmental sustainability it will be necessary to have ongoing environmental impact assessments. These should occur at periodic intervals, given that new information can come to light that changes the perception of environmental practices. An example of this is when farming that used drip irrigation was found to actually increase rather than reduce agriculture's water-intensity. As has been outlined in this paper, any further agreements, for example on green hydrogen, should include sustainability impact assessments to protect the marine environment and support social sustainability. In addition, strong dispute settlement language and mechanisms with the potential to enforce penalties, such as suspending trade concessions in cases of non-compliance, are also key for future arrangements. The UK has an opportunity to put water systems on the agenda through the country's current post-Brexit trade deal negotiations. To achieve this, it is necessary to assess the impacts of trade on water sustainability prior to negotiations, by enhanced transparency and disclosure as well as quantitative measurements about the true extent of the water risks associated with different goods and trade patterns. This information can then provide the basis to develop joint strategies for mitigating water risks brought about by increased trade.

About the authors

Silvia Weko joined the Friedrich-Alexander-University Chair of Sustainability Transition Policy in 2023 as a research associate. Her research focuses on the politics of sustainability transitions, and the different actors that aim to shape how economic value is created and distributed. In 2019–23, she worked as a research associate with the Research Institute for Sustainability (RIFS) on topics including the geopolitics of green hydrogen, technology transfer and innovation, data and intellectual property in transitions, and EU sustainability policy. Her dissertation was completed in 2023 at the graduate centre for Effective and Innovative Policymaking in Contested Contexts (EIPCC) at the University of Erfurt.

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Cover image: Men working on a tea nursery in Thyolo, southern Malawi, 26 September 2023.

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