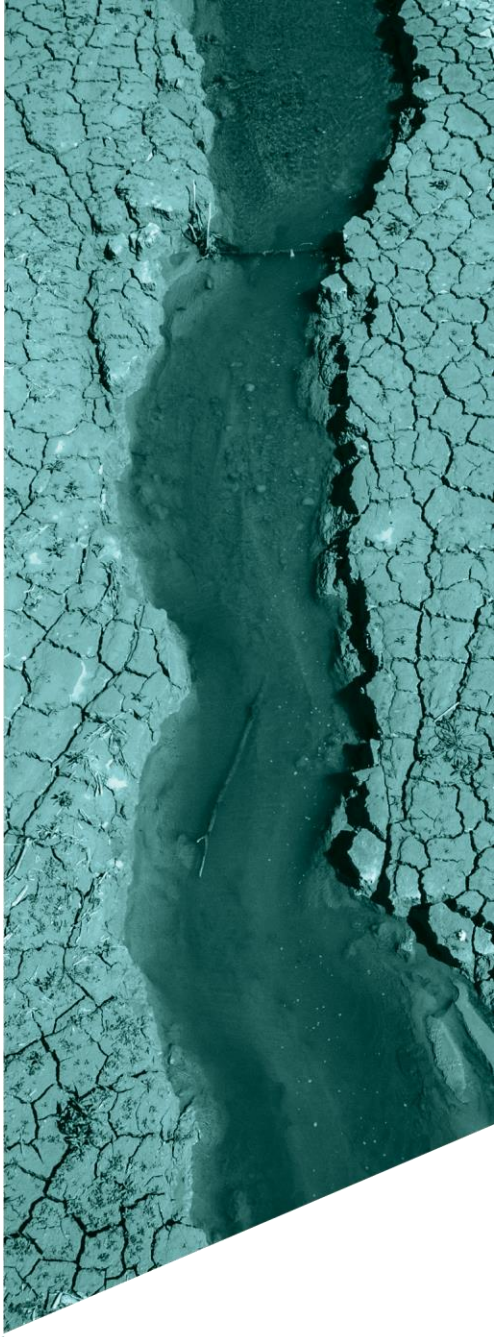
Bloomberg Intelligence BI

Water Risk

2025 Global Outlook

As Scarcity Intensifies, Broad Swath of Companies, Sectors Face Challenges



With demand for fresh water expected to outpace supply by 40% in five years, large portions of industries will be operating in areas of high stress, which can lead to delayed project approvals, production halts and higher costs. Agriculture, textiles, food, beverages, chemicals and oil and gas are especially at risk, prompting, for example, Nestle to invest in sustainable agriculture and McDonald's to swap chicken for beef on its menus.

- **Discovering Risk From Financing:** Though lenders don't disclose water risk to the same degree as CO_2 emissions, our analysis found that Bank of America and Wells Fargo finance some of the highest intensity and risk exposure.
- **Solutions Suppliers Well-Placed:** Sales growth will likely accelerate for companies that help address dwindling water supplies, like Veolia, Xylem, Ecolab and Lenovo. The desalination market alone may double to $50 billion by 2032.
- **More Focus From Investors:** The number of water-themed stock funds has climbed by about a third since 2020, with assets jumping roughly 60% to almost $94 billion.

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Lead Analysts		
Eric Kane	ESG, Global	ekane19@bloomberg.net
Gail Glazerman	ESG Integration, Americas	gglazerman1@bloomberg.net
Breanne Dougherty	Equity Thematic Strategy, Global	bdougherty25@bloomberg.net
Contributing Analysts		
Melanie Rua	ESG, Global	mrua1@bloomberg.net
Jessica Lin	Equity Thematic Strategy, Global	jlin779@bloomberg.net

Editorial & Visuals

Tony Robinson, Rik Stevens, Justin DeVoursney, Philippe Tardieu

More detailed analysis and interactive graphics are available on the Bloomberg Terminal

Section 1. Executive Summary

$70 Trillion
Amount of global GDP possibly exposed to high water stress by 2050

$50 Billion
Estimated desalination market by 2032

$17.6 Trillion
Assets managed by signatories to the Valuing Water Finance Initiative

Water Scarcity Puts $70 Trillion of Global Economy at Risk

Extreme heat and drought associated with climate change are intensifying water scarcity worldwide at an unprecedented pace across sectors, asset classes and regions, with demand for fresh water expected to outpace supply by 40% in five years. In real estate alone, 60% of global REITs could be operating in areas of high water stress by 2030. By 2050, $70 trillion of global GDP may be exposed to high water stress, up fivefold since 2010, according to the World Resources Institute.

Businesses must adapt or face financial consequences, with agriculture, textiles, food, beverages, chemicals and oil and gas especially at risk. Nestle is investing over $1 billion in sustainable agriculture, and McDonald's is expanding its chicken offerings as drought pinches cattle production. Meanwhile, apparel makers are pursuing alternatives to water-intensive cotton.

Key Research Topics

- **A Variety of Costs:** Water scarcity can halt production, require investment and lead to impairments. Constellation Brands took a $660 million writedown as it abandoned a Mexico brewery project. In Chile, a $200 million Google data center's approval was partly reversed and Antofagasta had to spend $1.5 billion last year to increase seawater use at a mine.
- **Financing Risks Climb:** Bank of America and Wells Fargo finance the some of the highest water consumption and water risk exposure, according to our analysis of league table data in water-intensive industries. This applies the concept of tracking CO_2 emissions financing, which has received more attention than water, to assess risks that lenders may not report.
- **Tapping Opportunities, Solutions:** Revenue is likely to rise for companies that provide solutions, like Veolia, Xylem, Ecolab and Lenovo. By some estimates, the desalination market alone could double to $50 billion by 2032.
- **Slow Progress on Reducing Use:** Though 65% of our peer group have set water-reduction goals, just a third are on track to meet or have hit their targets.
- **Investor Interest Increases:** The number of water-focused funds rose to 184 last year from 137 in 2020, while assets climbed about 60% to nearly $94 billion.

Performance and Valuation

Though 73% of Bloomberg water index members had positive returns over the past year, led by infrastructure and services companies, just 44% outperformed the broader global market. High exposure to water risk correlated to high volatility in price-to-sales ratio.

Section 2. Catalysts to Watch

World Bodies, Judges to Weigh In on Water Conservation

Various EU and UN requirements on water use are set to roll out over the next several years, and old commitments will continue to come due at least until decade's end. Meanwhile, US regulations could be relaxed by the White House and the Supreme Court in the near term.

Critical Milestones:

- **1Q25:** Possible release of first corporate reports to the European Corporate Sustainability Reporting Directive, including several key water metrics, affecting up to 50,000 companies; Details of EU proposal to modify and delay implementation of ESG reporting regulations also due
- **1Q25:** Trump administration review of certain Biden administration rules could weaken the regulatory outlook for water management
- **Summer 2025:** US Supreme Court ruling in San Francisco v. EPA might weaken Clean Water Act provisions
- **2025-27:** Initial monitoring of US PFAS drinking-water standards
- **January 2026:** EU members must comply with the Drinking Water Directive limits for PFAS
- **2026:** UN's COP 17 meetings on biological diversity could result in new agreements that affect preservation of water resources
- **Mid-2027:** EU countries must adopt laws implementing updated Urban Wastewater Treatment Directive with extended producer responsibility
- **2030:** Deadline for commitments made at COP 15 to conserve 30% of land, freshwater and ocean globally

Section 3. Investor Interest

Coalitions Prompt Focus on Natural Resources

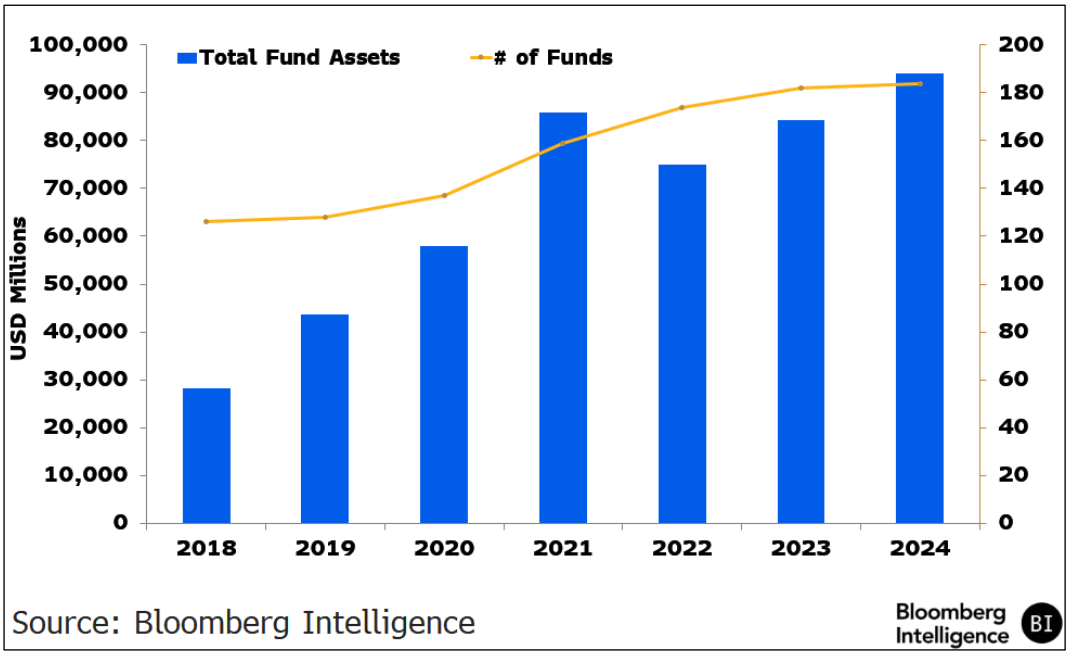
Shortages of natural resources were cited as the fourth-highest concern over the next 10 years in the World Economic Forum's annual survey of more than 900 experts from business, academia, government and international organizations. And though water typically hadn't garnered much attention from companies and investors, the paradigm may be shifting as sustainable debt issuance and water-related funds gain traction. Coalitions have played a pivotal role. The Valuing Water Finance Initiative, with more than 100 investors holding $17.6 trillion in assets, has identified 72 companies to engage with to better protect water systems.

3.1 Water Funds Increase, Holding Nearly $94 Billion in Assets

The number of funds focused on water increased to 184 last year from 137 in 2020, while assets increased to nearly $94 billion from around $58 billion. The Invesco Water Resources ETF, for example, is focused on US-listed companies that create products to conserve and purify water and had more than $2.1 billion in total assets on Jan. 6. The funds analyzed in Figure 1 were selected by identifying those with "water" in the name or prospectus.

BI **Corporate mentions of water outside ESG disclosures indicate that such issues present material challenges**

Figure 1: Water-Themed Funds



Sustainable debt for proceeds focused on water rose to nearly $80 billion last year from just under $1.4 billion in 2023. The International Finance Corporation in 2022 issued Guidelines for Blue Finance, which focuses on financing instruments for ocean-friendly projects and preserving clean water. In October, Saur priced its inaugural blue bond for €550 million to finance initiatives related to production and distribution of water, wastewater treatment and desalination.

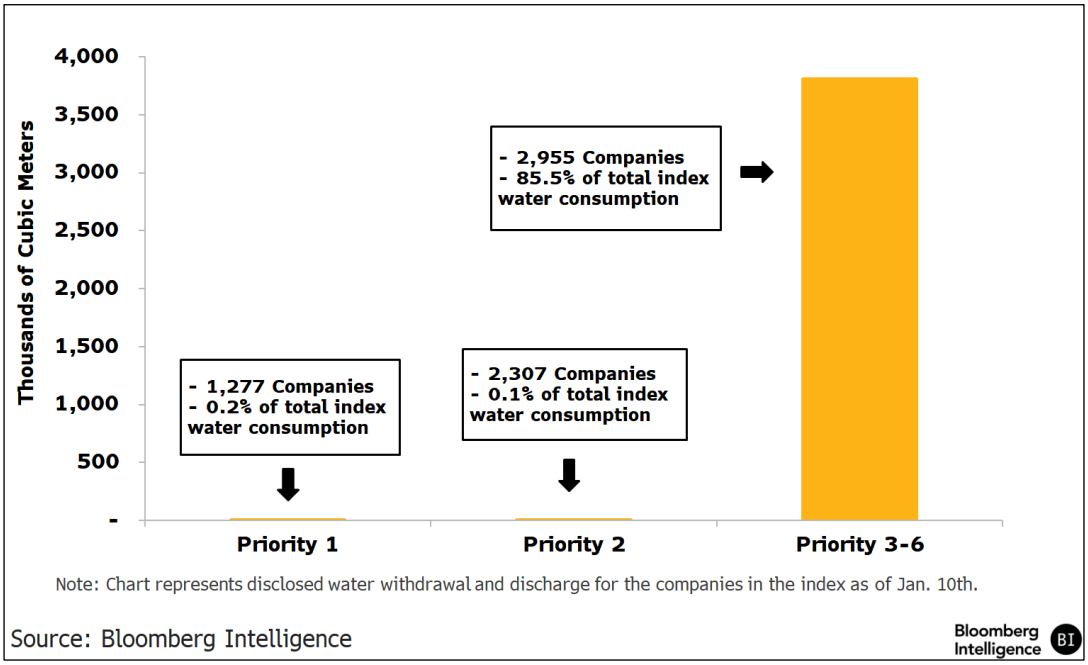
Water scarcity and drought are gaining prominence with companies, according to our analysis of 10-Ks, 20-Fs and annual reports for the more than 2,400 companies in the Bloomberg World Large and Mid-Cap Index. Mentions of drought increased to 1,739 last year from 682 in 2019, while use of the term "water scarcity" rose to 919 from 278. Appearance of the terms outside stand-alone ESG-related disclosures suggest that water-related issues present material challenges. An analysis of the S&P North American Tech Sector Index finds similar trends, likely because of the growing demand for water to cool data centers.

Environmental shareholder proposals for Russell 3000 companies have increased in each of the past four years, to 665 in the 2024 proxy season. Yet only five resolutions were related to water. In 2024, the Greater Manchester Pension Fund filed a resolution to Constellation Brands asking the company to "issue a report assessing the feasibility and practicality of establishing time-bound, quantitative goals to reduce supply chain water usage to mitigate value chain risks related to global water scarcity in high-risk areas." The resolution won support from 35% of shares and could herald more investor concern over portfolio risk associated with water.

3.2 Water Risk Appears to Be Discounted in ESG Analysis

BI **Less than half the Bloomberg ESG coverage index's members account for almost 90% of consumption**

Figure 2: Total Water Consumed by Priority, BESGCOV Index, 2023



Note: Chart represents disclosed water withdrawal and discharge for the companies in the index as of Jan. 10th.

Source: Bloomberg Intelligence

Bloomberg Intelligence BI

Industries like mining and companies such as Australia's Sandfire Resources face risk from water scarcity, as indicated by Bloomberg ESG scores. Less than half of the Bloomberg ESG Score Total Coverage Index's more than 16,500 members account for almost 90% of consumption. The scores also highlight companies, like Canada's Barrick Gold, that are reducing risk through recycling and conservation. Companies that place lower priorities on water, from 3-6 on our scale, represent 86% of the index's total consumption. That suggests that the issue may be discounted in ESG analysis relative to climate concerns, in particular. The integrated electric utilities industry represents most of the index's total water consumed, yet water management was

Priority 6. The issue gets low weight compared with climate exposure and management of greenhouse gas emissions, potentially overlooking water's importance to the industry. Though water scarcity is a global issue, its localized nature prevents the topic from getting the same attention as CO_2, limiting discussion about global water markets or other mechanisms to curb consumption.

Section 4. Exposure by Usage

Financially Material for Almost Half of Peer Groups

Water risks manifest differently whether the need is for, say, production, supply chains or cooling. The resource is financially material for 47 of Bloomberg's 106 scoring peer groups, spanning 23 sectors. Of these, 32% depend on water for production, 28% face wastewater risks and 25% rely on water in property development. In mining, water accounts for more than 25% of precious metals' and 22% of base metals' environmental scores. (See Figure 15 on page 19.)

4.1 Production: Shut Plants, Added Costs, Withered Crops

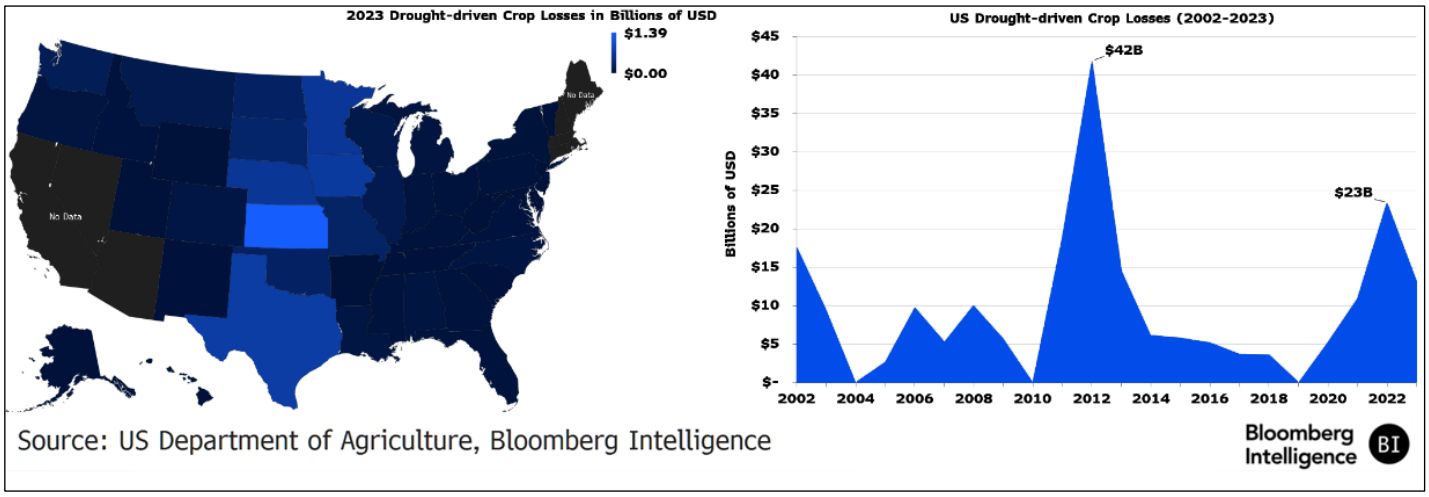
BI

ADM has said water stress to production on the Mississippi River could cost $640 million

Water scarcity increasingly is jeopardizing production, which can add to construction and capital costs and, in extreme cases, abandoned projects. Three recent examples highlight such risks: Constellation Brands essentially scrapped a new brewery in Mexico, Chemours was forced to idle a chemical plant and Taiwan chipmakers faced extra costs to truck in water.

Agriculture is particularly sensitive to water, accounting for 59% of EU consumption while households and services make up 13%. Meanwhile, 56% of irrigated cropland is exposed to extremely high water stress, according to World Resources Institute estimates.

Figure 3: US Crop Loss From Drought



Agricultural companies – which rely on water for irrigation, cleaning and processing – face fines and lawsuits for polluting water sources. Archer-Daniels-Midland has said that four of its largest processing complexes fed by the Mississippi River face substantive risk from water stress and that disruptions to production could cost up to $640 million. Meanwhile, disruptions to upstream suppliers from drought might cost $70 million. Singapore-based Olam International warned that its almond orchards subject to water stress in the US and Australia may require more spending to adapt production. Higher water prices due to drought in Australia cost the company S$1.25 million in 2021.

A prolonged drought in Brazil cut estimates for arabica coffee production by 11 million bags to 34.4 million, triggering an 80% surge in futures prices last year. Margin calls in November alone totaled $7 billion, pushing exporter Atlantica Exportacao e Importacao and others to seek bankruptcy protection.

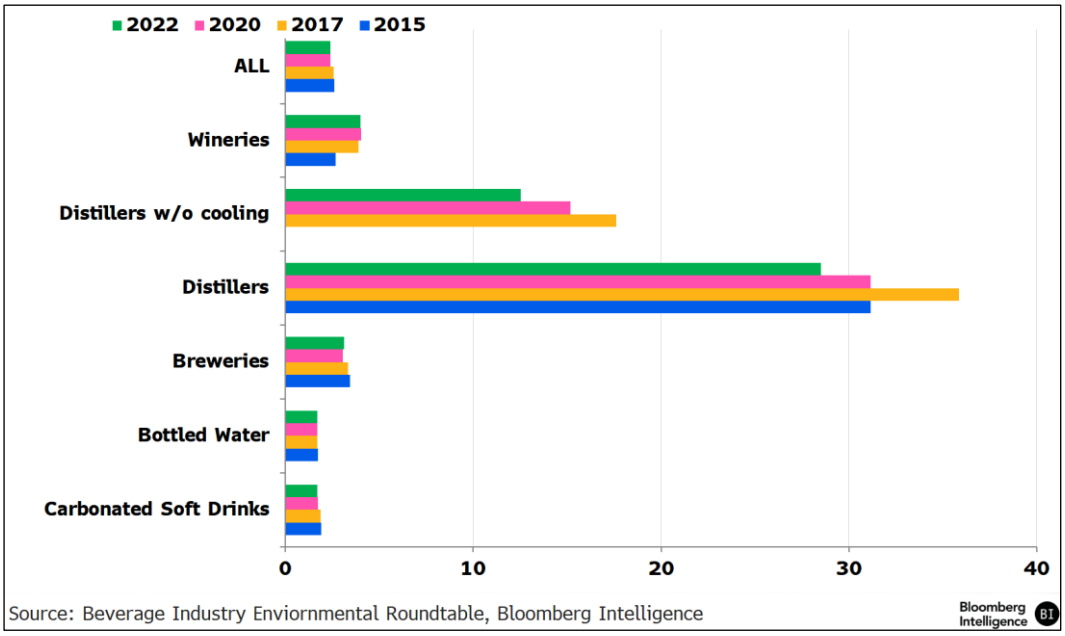
To ensure supply of its largest ingredient, KIND Snacks' regenerative almond-farming project used subsurface irrigation to cut water use by 30% while maintaining yields. Bunge aims to reduce water intensity by 25% over 10 years by 2026 at facilities in high water-stress areas.

Beverage companies are uniquely exposed to water (Figure 4). Constellation Brands abandoned an almost completed brewery in Mexico, taking roughly a $660 million charge, over water supply. Its alternative $1.3 billion plant to the south, with better water availability is about 600 miles farther from the US, adding to logistics costs. Bottled-water company BlueTriton has faced resistance to its water access in Maine, Michigan and California, the last of which issued a cease-and-desist order at a site.

BI

The beverage industry reduced water intensity 8% from 2017 to 2022

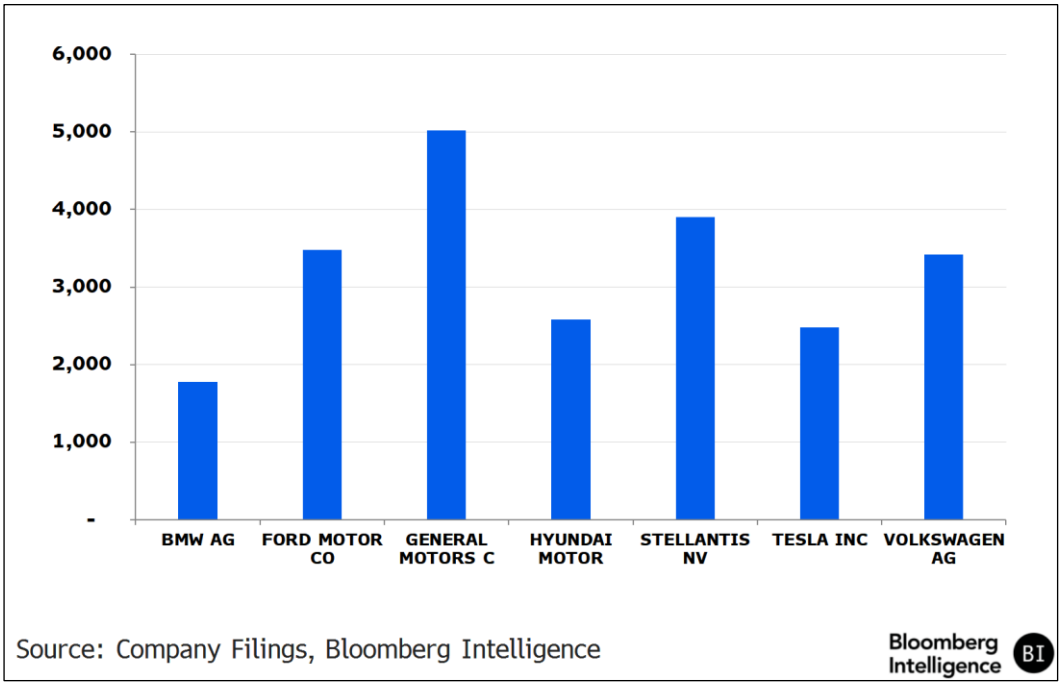
Figure 4: Water Use (Liters) per Unit of Production



The industry reduced water intensity 8% from 2017 to 2022, according to BIER Roundtable benchmarking, but the figure only improved 1% in the following two years due to an increase at brewers, and absolute industry water use rose despite efficiency gains.

Carmakers are adjusting as well. EU water use per car fell 34.4% from 2005 to 2022, according to the European Automobile Manufacturers' Association. GM invested $57 million to reduce discharge and boost efficiency at a plant in a water-stressed area in Mexico.

Figure 5: Auto Water Use (Liters) per Unit of Production



Hyundai's new $7.6 billion Georgia plant received final approval to withdraw 6.65 million gallons a day from wells near the site, but the potential impact on water supplies sparked opposition, spurring the US Army Corps of Engineers to review the permit it issued. Local concerns about water also delayed approvals to expand Tesla's German factory.

BI **Regions that depend on hydropower can face widespread blackouts**

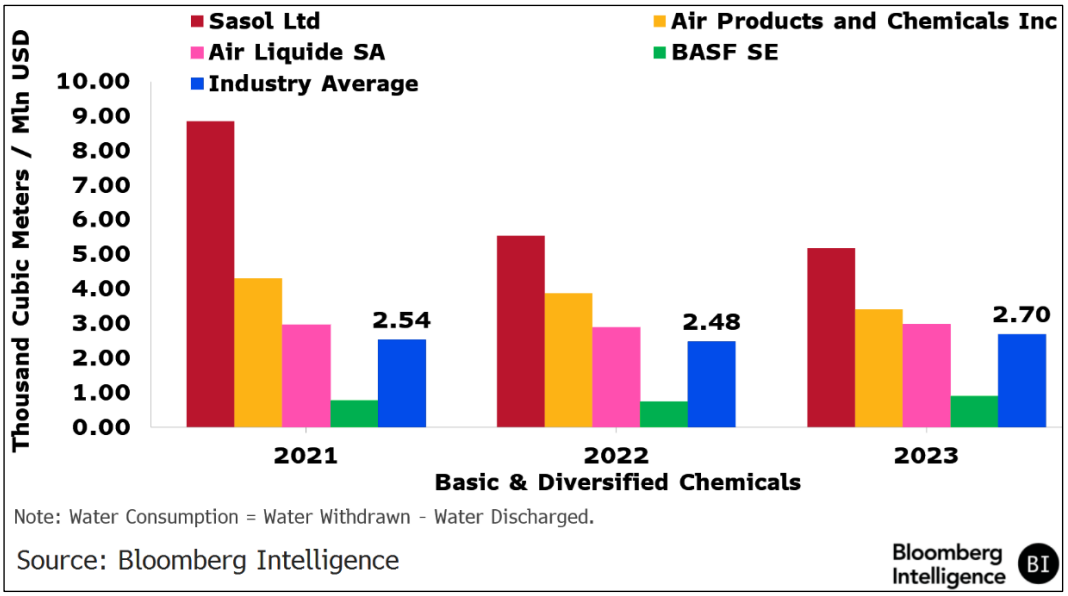
In **hydropower**-dependent Zambia, declining water levels have triggered widespread blackouts, forcing the country to approve new coal-fired power plants. Since hydropower accounts for 85% of Zambia's electricity, it has increased tariffs 115% to meet monthly import expenses of about $15 million.

In the US, the hydropower sector incurred $28 billion in losses due to drought from 2017 to 2021, according to one study. And of all hydropower dams in the country, 62% will be in areas with high to extremely high risk of floods, droughts or both by 2050, according to a study published in Water Magazine. PNM Resources reported that its gas- and coal-fired power plants, accounting for 43% of capacity, may face decreased generation as drought conditions in New Mexico linger. Western hydropower fell to a 22-year low last year due to severe drought, according to the Energy Information Administration, which forecast a 14% decline for the 2023-24 water year.

Several chemical companies declared force majeure as drought forced them to idle plants

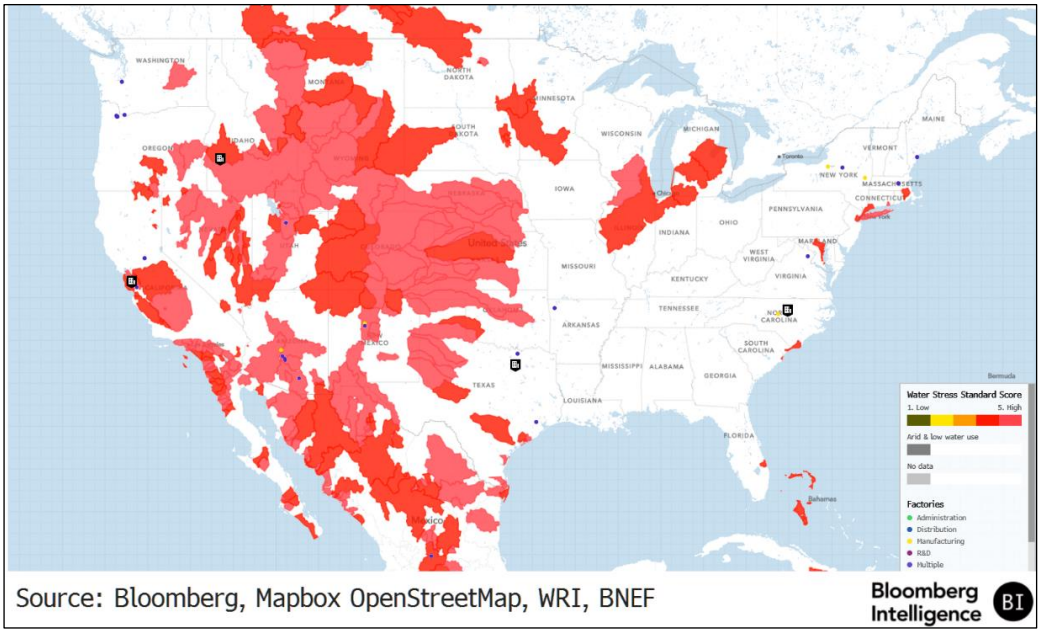
Chemical companies including Cabot, Chemours and Orbia Advance declared force majeure last year as government restrictions imposed to address drought conditions in Mexico's Tamaulipas state forced them to idle plants. Dow says its largest plant is exposed to water risks, which it estimated could cost $315 million to $1.8 billion.

Figure 6: Water Consumption by Revenue



In the **semiconductor** industry, each liter of ultrapure water needed in production can require 1.4-1.6 liters. The World Economic Forum found that 40% of chip plants announced since 2021 are in water basins expected to face severe water stress by 2040. An Indiana plan to attract semiconductor manufacturing would require piping in water from 40 miles away, prompting concerns about the impact on local supply (Figure 7). Taiwan Semiconductor Manufacturing estimates that $550 million to $625 million of revenue could be at risk from water scarcity. Droughts in Taiwan have required it to truck in water at high cost. A $545 million desalination plant is under construction to service Taiwanese semiconductor plants.

Figure 7: US Semiconductor Manufacturing Areas of Water Stress (2030)



4.2 Supply Chains: Chicken Swaps for Beef, Hemp for Cotton

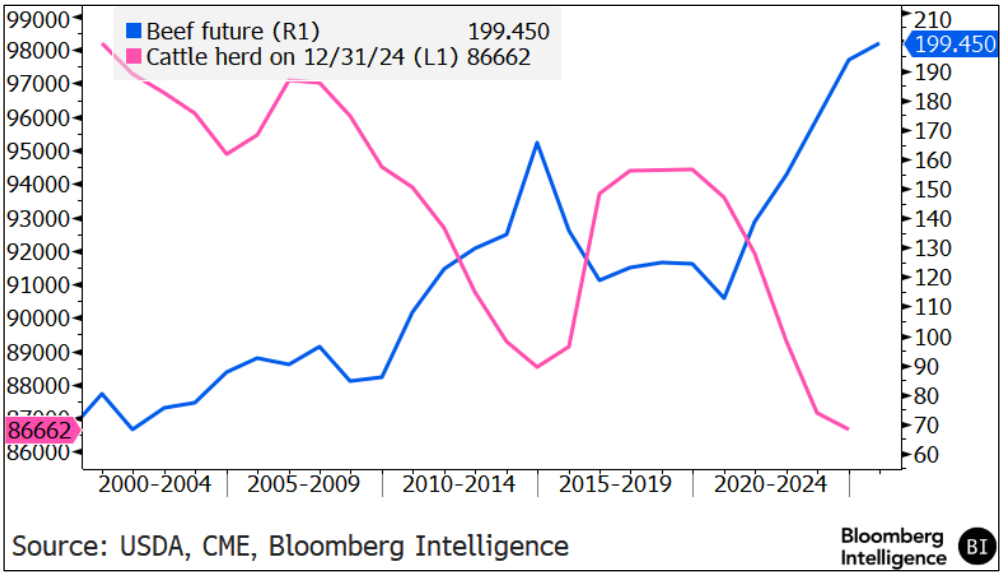
BI

Rising beef prices have caused McDonald's to push chicken as an alternative

As scarce water affects the supply and cost of commodities, from coffee to cotton to beef, companies are shifting recipes and product lineups, fundamentally changing their businesses and what people ingest and wear. Water issues in the supply chain could have nearly an $80 billion impact on business, according to the nonprofit CDP, which runs an environmental disclosure program.

Historically low US cattle herds – largely due to drought's impact on feed – have raised prices, causing US restaurants to push alternatives (Figure 8). McDonald's is promoting chicken as an alternative to beef, with sales of the poultry rising to roughly $25 billion, rivaling beef. Globally, chicken sales are growing much faster.

Figure 8: US Cattle Herds vs. Prices



With orange crops low worldwide due to storms, disease and drought, beverage companies are looking at adding more-resilient mandarins to orange juice. And as drought and other factors drive cocoa prices to extreme highs, candy makers are investing in lab-grown cocoa and promoting products that are less reliant on chocolate.

BI

Coffee prices reached a multidecade high on drought concerns

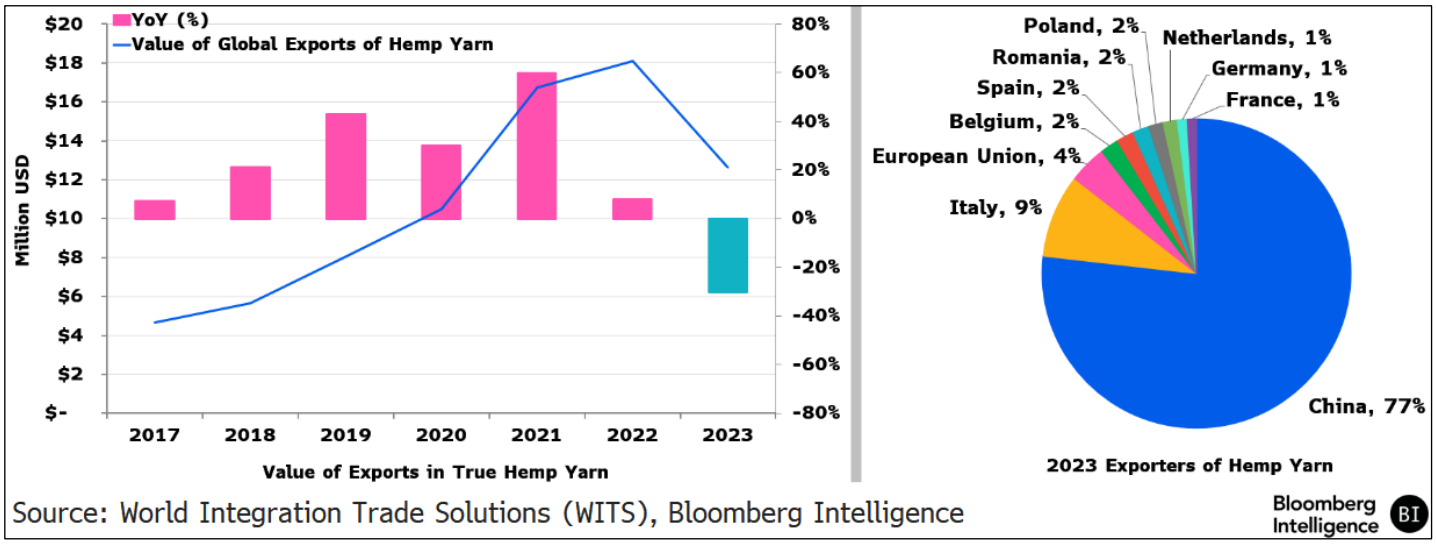
Arabica coffee prices reached a multidecade high, largely reflecting concerns that harvests will be depressed due to drought. Anticipating further water stress, startups are developing substitutes that don't use the bean, such as mushroom-based hot beverages. Big companies are also making adjustments. Nestle said recently that it would respond with price increases, smaller packages and formats that use fewer beans. It's also committed over $1 billion to regenerative agriculture, such as the development of disease- and drought-resistant beans and higher-yielding plants. Starbucks is buying R&D farms.

Companies have also faced significant disruption as low water levels affected freight. Drought forced the Panama Canal to limit use, causing companies to pay premiums, some exceeding $2 million, for expedited passage. Limited capacity on the Rhine due to a 2018 drought contributed to €250 million higher costs for BASF, and low water levels on the Mississippi River caused shipping rates to surge, putting autumn 2024 costs 55% above the five-year average.

Meanwhile, roughly 50% of the world's cotton crop will be exposed to drought in 15 years, according to the Cotton 2040 Initiative. As much as 5,000 liters of water is required to produce one kilogram of fiber. More than half of the cotton planted in the US Southwest was abandoned for the second consecutive year in 2023 and production prospects have been reduced due to severe drought. Adidas, Lululemon and Nike lead apparel makers' push to cut water use by as much as 50% by 2025.

Nike's cotton supply chain accounts for about 80% of its total water footprint. The company has invested over $2 million in watershed restoration projects since 2019, and in the fall of 2022 announced Nike Forward, a new fabric made of 70% recycled content that uses no water for dyeing and finishing.

Figure 9: Global Hemp Fiber Exports



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Hemp requires about a quarter of the water as cotton, making it a useful alternative

Apparel firms are also incorporating alternative fibers like hemp, linen, nettle and flax. Levi Strauss, which aimed to reduce manufacturing water use in areas of high stress in half by this year, introduced cottonized hemp in 2020. Hemp cultivation requires roughly a quarter of the water that's needed for cotton. H&M invested in Galy which is developing lab grown cotton that requires 99% less water.

The two most widely used fibers in apparel create a dilemma. One cotton t-shirt requires 2,700 liters of water, yet a variation in polyester generates more than 12 pounds of CO_2, according to the World Resources Institute. Companies that shift toward alternative or recycled materials may be better able to avoid the conflicting water and climate risks from cotton and polyester.

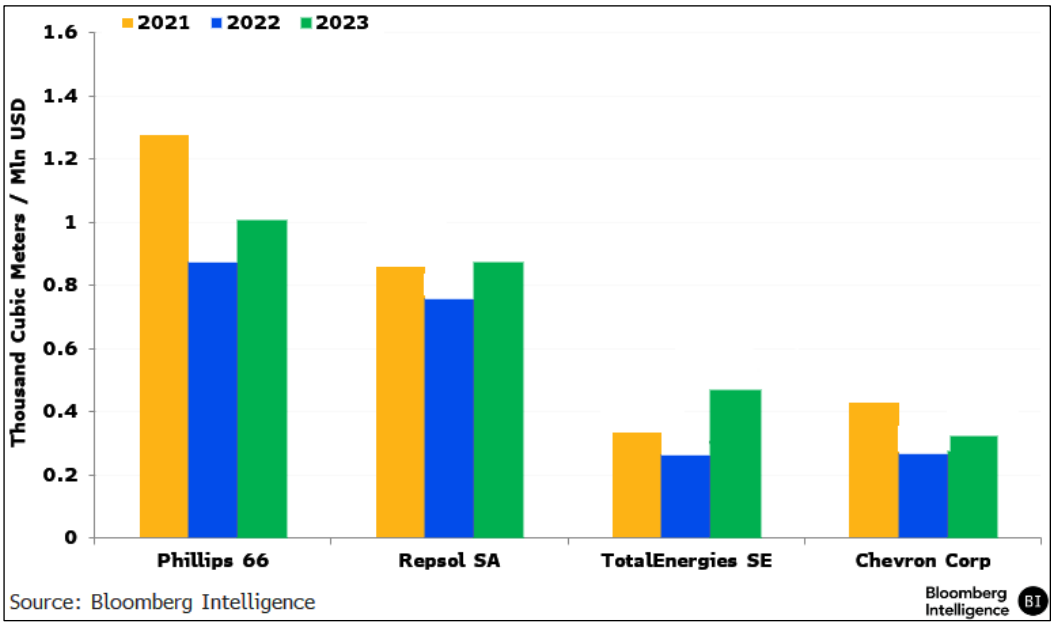
4.3 Extraction: Miners, Frackers Seek Alternative Sources

Water scarcity is a growing concern for the mining and oil and gas industries. Protests erupted at Grupo Mexico's Buenavista del Cobre mine in June amid a regional drought, as the company is entitled to 53 billion liters of annually, accounting for 57% of local watershed volume. To mitigate such risks, miners are investing in alternative sources. Antofagasta spent $1.5 billion last year to double seawater supply through a new pipeline at its Centinela mine in Chile.

Oil and gas companies rely heavily on water for exploration, drilling and hydraulic fracturing. Advanced drilling techniques like fracking have driven a production surge in the arid Permian Basin region, tripling water use from 2017 to 2023 and sending freshwater costs up sharply. Chevron recycles as much as 60% of its water, reducing reliance on freshwater.

Chevron recycles up to 60% of the water it uses for fracking

Figure 10: Integrated Oil Companies' Water Risk Exposure

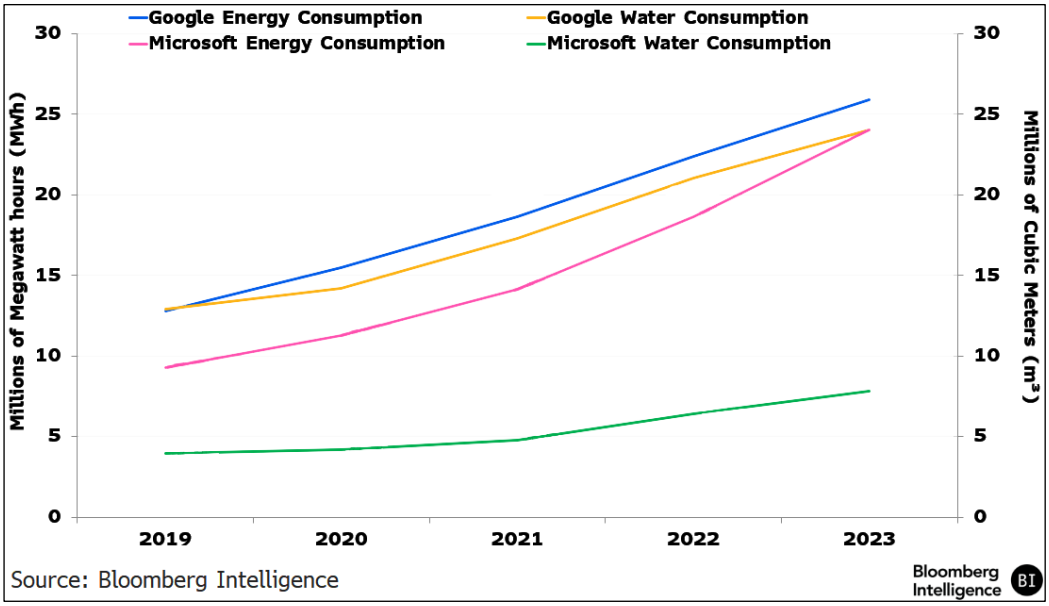


4.4 Cooling: AI Data Centers Add to Stress From Power, Steel

The need for cooling water has climbed dramatically with demand for AI and the energy to power the technology. Data centers are expected to account for up to 12% of all US electricity consumption by 2028, up from about 4.4% in 2023, according to Berkeley Lab. In Virginia's so-called Data Center Alley outside Washington, companies like Microsoft and Amazon.com used 1.85 billion gallons of water in 2023, up 64% since 2019.

To address the growing challenge, Amazon Web Services and Microsoft committed to becoming water-positive, that is, replenishing more water than they use, by 2030 (Figure 11). Microsoft recently unveiled a zero-water cooling design for new facilities, eliminating 125 million liters of water a year per data center. Technologies like closed-loop cooling systems, which recycle wastewater or collect rainwater, could cut freshwater use by as much as 70%.

Figure 11: Water vs. Energy Use



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Using brackish water to cool power plants can eliminate freshwater use

Thermal power plants, which generate 70% of the world's electricity, consume up to 3,000 liters of water per megawatt hour for cooling. In regions experiencing water scarcity such as India, where 30% of coal-fueled thermal plants face water stress, that reliance poses operational challenges. To address such risks, some power plants are investing in advanced cooling technologies, like closed loop or air cooling. The US Energy Department's National Energy Technology Laboratory reports that using brackish water to cool power plants can cut freshwater use by 94-100%.

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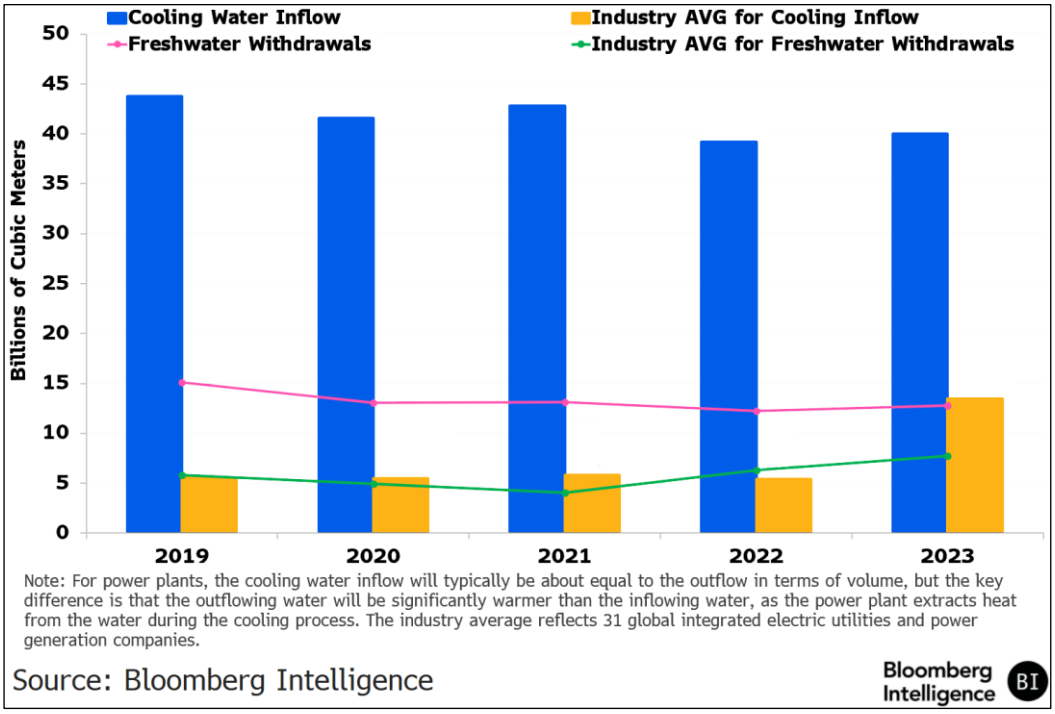
EDF had to cut up to 3 gigawatts of its nuclear output due to an August heat wave

Figure 12: Electricite de France Water Use vs. Industry



Electricite de France cut up to 3 gigawatts of its nuclear output due to an August heat wave that warmed the rivers that the utility uses to cool reactors. The company has cut output annually since 2022, yet still identifies heatwaves and drought as acute, rather than chronic, risks.

The steel industry, which also relies on water for cooling, consumes up to 175 liters per ton of output. In regions like India, where water shortages are intensifying, manufacturers including Tata Steel and JSW Steel have flagged possible disruptions due to limited water availability. Nearly half of Tata's physical assets and 56% of JSW's are in areas of high or extremely high water stress.

4.5 Property Development: Builders, REITs Face Higher Costs

As demand for groundwater grows and outpaces supply, access will likely become a bigger hurdle for property developers. Governments increasingly are prioritizing water access, weighing civilian use against commercial, with data centers particularly facing backlash.

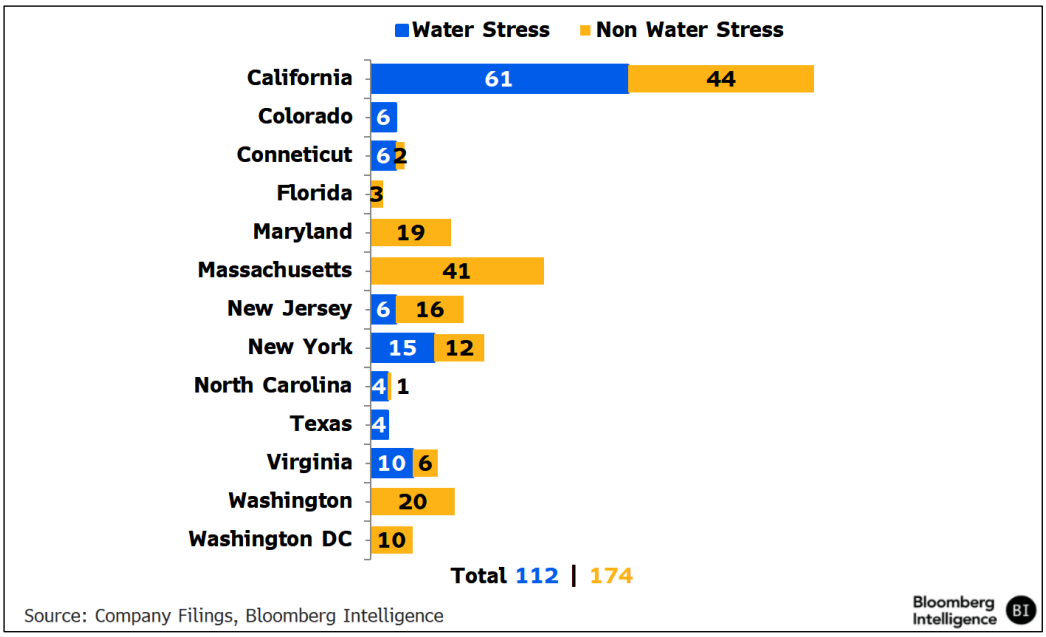
Arizona determined last year that it didn't have enough groundwater for all the housing construction around Phoenix that had been approved. Though permits weren't revoked, projects may require incremental conservation and new water sources. Future developments may struggle. Nevada has considered capping residential water use in Las Vegas. In Texas an 800-home subdivision was delayed due to limited water availability. Any progress will require the builder to fund infrastructure upgrades. D.R. Horton spent $290 million to buy a Nevada water-resources company, citing markets that lack adequate supply for development.

And water challenges are likely to intensify. Developers may face higher costs to secure water rights, increased spending for conservation and could face impairments on some properties. REITs such as Equity Residential, AvalonBay Communities and Mid-America Apartment

Communities report that 40-50% of their properties are under water stress (Figure 13). By 2030, 60% of global REITs could be confronted with higher water stress, according to a BlackRock analysis. That includes almost two-thirds of US REITs, twice as many as in 2020. Companies are investing in reclamation and efficiency. Valuations could be higher for REITs with assets in less-stressed areas or that are equipped to better withstand scarcity. AvalonBay is saving $1.5 million by deploying more efficient irrigation systems.

BI **REITs like AvalonBay, Equity Residential and Mid-America report that 40-50% of their properties are in water-stressed areas**

Figure 13: AvalonBay Water-Stressed Communities



Municipalities are requiring investments in water efficiency and reuse and providing incentives. LA mandates that cooling-tower water comes from nonpotable sources for buildings of more than 25 stories, and Austin offers funding for systems that use alternatives for potable water. Though meeting increased regulations can lift development costs and delay permitting and construction, it also can generate operating savings. Meanwhile, water bills are rising. New York City's combined water/sewer rates are 3.7 times higher than in 2000. The city's incentives include a 25% discount for properties that reduce potable water by at least 25% and up to 75% in wastewater discounts for sites that discharge less than 25%.

Water and other resources are becoming a constraint on data-center development as AI-fueled demand surges. In some areas, data centers account for as much as 25% of public water use. A Chilean court partly reversed approval for a $200 million Google data-center project, citing water use. The company is considering shifting to less water-intensive – but more energy-dependent – air-based cooling. Some regions, like the US southwest, are well-suited for low-cost renewable energy but are extremely dry.

4.6 Services: Ski Resorts Tap More Water to Make Snow

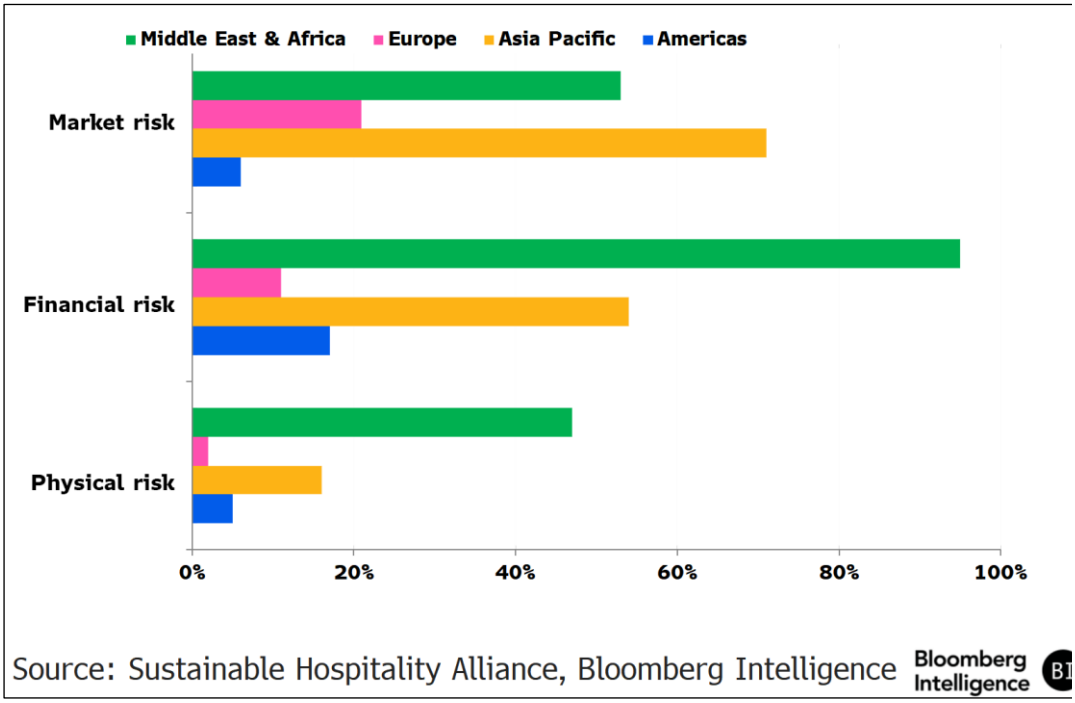
Recreational and service providers face unique challenges. Some hotels have been forced to shut during droughts – as occurred in Capri, Italy, last summer – and rising temperatures have made

ski resorts rely more on water-intensive snowmaking. Sanitation and hospitals also have hurdles. Addressing such risks can require substantial investment.

Hotels may face incremental costs for supply, storage and treatment and could struggle to secure permits for new projects. Santorini, Greece; Sicily, Italy; and Seville, Spain; have restricted short-term rentals. Tourists can use as much as eight times more water than locals, aggravating tensions as water is rationed. Compounding the challenge, water demand rises as temperatures climb.

BI **The hospitality industry faces particularly high water risk in the Mideast and Africa**

Figure 14: High/Extremely High Hospitality Destination Water Risk



Warmer, drier weather associated with climate change is a huge challenge for ski resorts, shortening seasons, and could cost the US industry $1 billion annually by 2050. Resorts increasingly make snow, but that adds costs (especially for energy) and has significant water risk. Colorado estimates that its mountains will need 40% more water by 2050 as regional water risk is expected to rise sharply. Vermont limits water access when levels are low. French resort Alpe du Grand Serre closed permanently, citing climate change. Resorts are adapting by adding terrain on higher ground, developing nonskiing activities and, like Vail Resorts, diversifying geographically.

Hospitals account for 7% of total commercial and institutional water consumption in the US, using about 570 gallons of water per staffed bed daily. HCA Healthcare's Mission Hospital in North Carolina was left without potable water after Hurricane Milton in October, forcing the company to bring in water by tanker, costing at least $13 million.

Figure 15: Water Management Issue Weightings

Sector	Industry Peer Group	Water Management	Environmental Pillar	Ways Water Risks Manifest
Agriculture	Aquaculture and Fishing	25.4	41.7	
	Agricultural Producers & Wholesalers	17.1	45.5	Production
	Meat & Eggs	7.7	38.5	
Biofuels	Biofuels	12.7	45.5	Production
Chemicals	Agricultural Chemicals	10.6	45.5	
	Specialty Chemicals	10.6	45.5	Wastewater
	Basic & Diversified Chemicals	10.6	45.5	
Construction Materials	Building Materials	11.7	40.0	Cooling, Operations
	Cement	9.4	50.0	
Containers & Packaging	Plastic Containers & Packaging	7.7	44.4	
	Metal Containers & Packaging	6.8	44.4	Production
	Paper Containers & Packaging	6.5	50.0	
E-Commerce	E-Commerce	33.7	33.3	Cooling
Electric Utilities	Integrated Electric Utilities and Power Generation	7.7	45.5	Cooling, Production, Wastewater
Food & Beverages	Non-Alcoholic Beverages	33.7	40.0	
	Alcoholic Beverages	33.7	30.0	Production, Supplychain
	Packaged Food	16.1	40.0	
Homebuilders	Homebuilders	3.3	44.4	Development
Household Products	Home Products & Personal Care Products	20.1	33.3	Wastewater
Leisure Facilities & Services	Casinos	30.5	33.3	
	Hotels	26.6	40.0	Operations, Development
	Cruise Lines	10.1	41.7	
	Restaurants	9.7	38.5	
Metals & Mining	Precious Metals and Mineral & Precious Stone Mining	25.8	36.4	
	Iron and Base Metals	22.1	41.7	Extraction, Wastewater
	Coal	19.2	45.5	
Oil & Gas Producers	Refining & Marketing	17.0	45.5	
	Exploration & Production	16.1	45.5	Extraction, Wastewater
	Integrated Oils	13.5	45.5	
Oil & Gas Services & Equipment	Oilfield Services & Equipment	32.4	40.0	Operations
	Drilling & Drilling Support	17.4	40.0	
Real Estate Owners & Developers + REITs	Industrial, Specialty and Other REIT	23.4	50.0	
	Retail Owners & Developers + REITs	23.4	50.0	
	Office Owners & Developers + REITs	23.4	50.0	
	Health Care Owners & Developers + REITs	23.4	50.0	Development
	Residential Owners & Developers + REITs	22.9	50.0	
	Multi Asset Owners & Developers + REITs	22.9	50.0	
	Hotel Owners & Developers +REITs	22.9	50.0	
Renewable Energy Equipment	Solar Energy Equipment	12.8	40.0	Production, Wastewater
Semiconductors	Semiconductors	30.0	40.0	Production
Software & Tech Services	Software and Tech Services	41.6	30.0	Cooling
Steel	Steel Producers	10.0	50.0	Cooling, Production
Technology Hardware and EMS/ODM	EMS/ODM	41.2	27.3	Cooling
Telecommunications & Media	Internet Media, Platforms and Services	41.6	27.3	Cooling
	Data Centers	30.6	45.5	
Tobacco & Cannabis	Cannabis	41.6	27.3	Production
Water Utilities	Water Utilities	28.7	50.0	Production, Wastewater

Source: Bloomberg Intelligence

Bloomberg Intelligence BI

Section 5. Wastewater

Dumping, Toxic Spills Affect Array of Industries

Wastewater dumping and toxic spills in arid regions, which compound water scarcity by contaminating limited freshwater sources, are becoming a significant liability for companies across sectors – from food, to mining, to utilities – with compliance and remediation costing some of them billions of dollars.

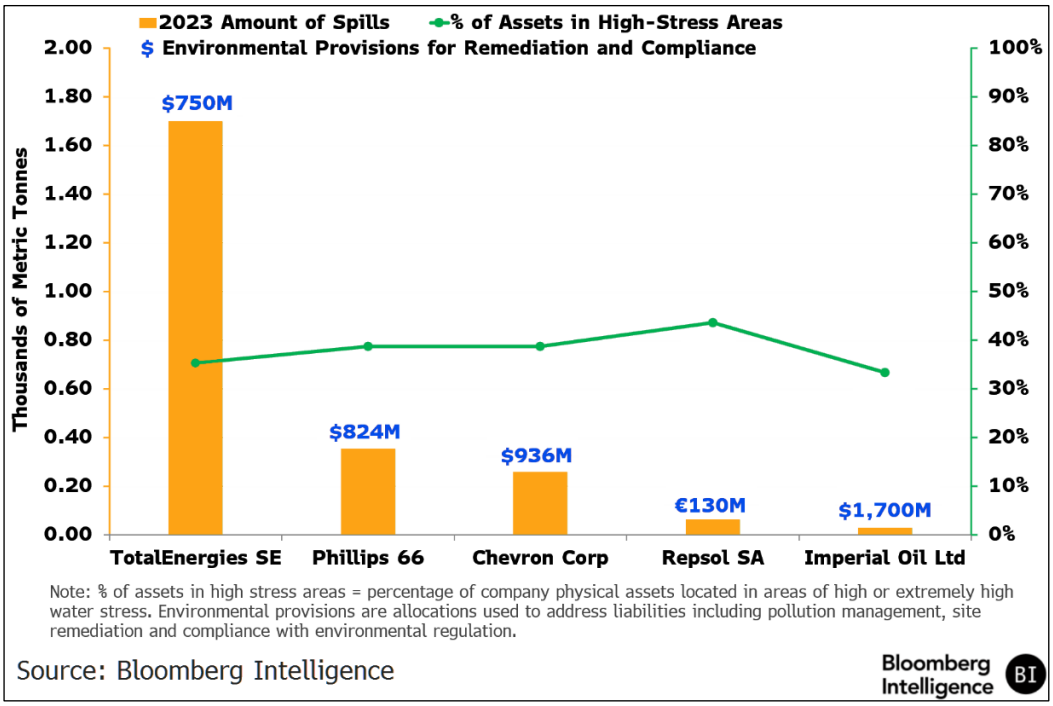
5.1 Fracking, Mining, Pharmaceutical Waste Add to Liabilities

Recent water contamination and spills illustrate the growing financial and reputational risk faced by oil and gas companies (Figure 16). In California, Shell agreed to a $230 million settlement to address contaminated wells in Fresno, Chevron was hit with $13.1 million in penalties for spills in Kern County, including funds to plug orphan wells, and Phillips 66 faces up to $2.4 million in fines and five years of probation for Clean Water Act violations in Los Angeles.

Studies, including by the US Environmental Protection Agency, have highlighted risks from hydraulic fracturing to drinking water, while incidents like wastewater blowouts in the Permian Basin have fueled calls for tighter regulation. With growing regulatory pressures and heightened stakeholder expectations, the costs of environmental compliance are poised to rise.

BI **Oil companies have paid millions of dollars over spills and contamination**

Figure 16: Oil and Gas Environmental Provisions, Water Stress



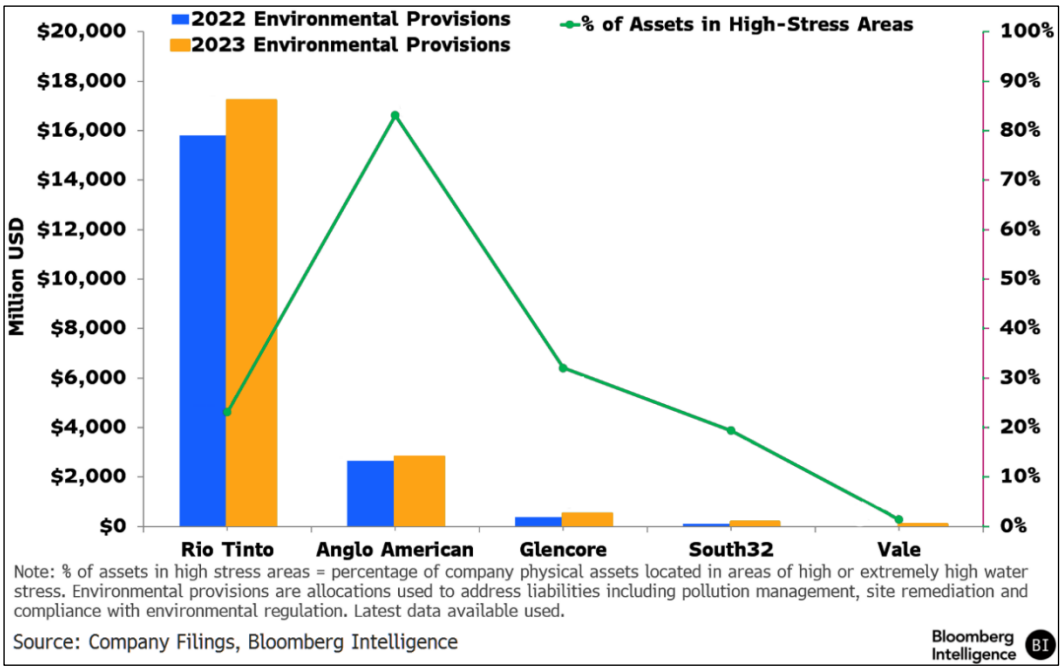
Mining projects have been blocked over concerns about possible contamination. Incidents including the 2015 Samarco Fundao disaster that polluted the length of the Doce River led BHP

Brazil and Vale to a nearly $30 billion settlement, including $18 billion in payments over 20 years to affected communities. Vale's 2019 Brumadinho collapse resulted in a $7 billion reparation agreement signed in 2021 that includes a massive cleanup of the Paraopeba river. Meanwhile there are concerns that exploratory wells near Rio Tinto's $2.6 billion lithium project in Serbia may have polluted the area, and protests in Panama cite water-contamination fears linked to mining operations.

BI

Vale reached nearly a $30 billion settlement with Brazil

Figure 17: Mining Water Discharge vs. Consumption



In agriculture, Archer-Daniels-Midland, the first US company to operate a permitted commercial carbon-sequestration facility, is facing scrutiny after a well leak at its $414 million Decatur, Illinois, site. Despite receiving $281 million in federal grants to build the project, the leak led to fluid migration into unauthorized zones more than 5,000 feet deep. Though no immediate threat to drinking water was reported, risks remain, especially given the proximity of local water sources. The incident raises concern about other companies pursuing similar carbon-capture projects, where wastewater could result in long-term environmental and regulatory consequences.

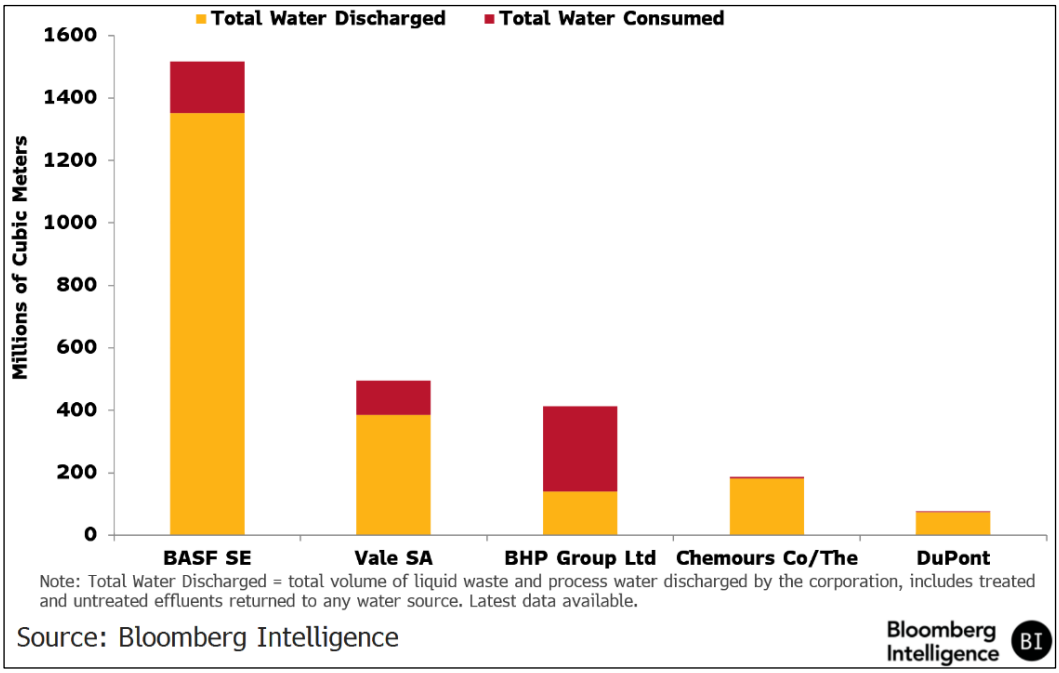
Integrated electric utilities and power-generation companies with coal-fired plants face financial and environmental liabilities from water contamination. Duke Energy in 2021 reached an $8 billion to $9 billion settlement, including $1 billion in unrecoverable outlays, to clean up the 2014 discharge of 39,000 tons of toxic coal-ash waste into North Carolina's Dan River. Duke warned shareholders that failure to recover the costs could weaken its balance sheet and that regulatory rulings would require substantial write-offs and reduce return on equity. In the US, 94% of regulated coal-ash ponds are unlined, leading to widespread groundwater contamination with toxic substances that exceed federal safe standards.

In the chemical industry, mounting regulatory pressures are amplifying water risks, particularly regarding contamination from PFAS materials, or "forever chemicals." (See our report at **NI BIBOOK<GO>**.) In 2023, lawsuits accusing major chemical companies of polluting US drinking

water with PFAS led to more than $11 billion in settlements. The EPA's National Primary Drinking Water Regulation in April set limits for six PFAS materials in drinking water. Companies including 3M, DuPont and Chemours face litigation this year.

Regulatory pressures have mounted over 'forever chemicals'

Figure 18: Chemicals' Total Water Discharged and Water Stress



The food industry also must grapple with wastewater challenges. Nestle's Perrier in April was ordered to suspend operations at one of its seven wells and destroyed 2 million bottles of the water found to be contaminated with fecal matter. Heavy rains, exacerbated by climate change, are believed to have caused water from higher wells to enter Perrier's deep location. Though not necessarily at unsafe levels, PFAS and pesticides also were found. Since Perrier is marketed as natural mineral water, it falls under strict regulation, preventing treatment, and Nestle in 2023 was fined €2 million for treating water. The company's new Maison Perrier brand isn't marketed as mineral water and can be filtered.

5.2 EU Extends Producer Responsibility for Wastewater

The EU recently passed a revised Urban Wastewater Treatment Directive which puts extended producer responsibility on the pharmaceutical and cosmetics industries as the two largest contributors to micropollution in wastewater. The industries are expected to cover 80% of water treatment costs. Though extended producer responsibility is common for packaging, applying it to wastewater is novel and might prove a precursor to other legislation as governments grapple with the costs of managing wastewater.

An early feasibility study found that the pharmaceutical industry accounted for 59% of toxins in EU wastewater, cosmetics made up 14% and that the law would cost the industries a combined €2.70 annually per EU resident. The industries have challenged the calculation but are likely to pay billions of euros over time.

Section 6. Financing Risks

Bank of America, Wells Fargo Lead in Financed Water Risk

As two of the world's biggest banks, JPMorgan Chase and Bank of America financed the greatest amount of water consumption in 2023, according to our analysis of Bloomberg league-table data on lending by 20 banks to the water-intensive steel, power generation and oil and gas industries. Wells Fargo, meanwhile, has outsize exposure to water stress, 32% in 2023, compared with peers. The proprietary analysis demonstrates how the concept of financing CO_2 emissions, which has received more attention, can be applied to financing water consumption and help investors identify risk exposure within loan books that hasn't been disclosed.

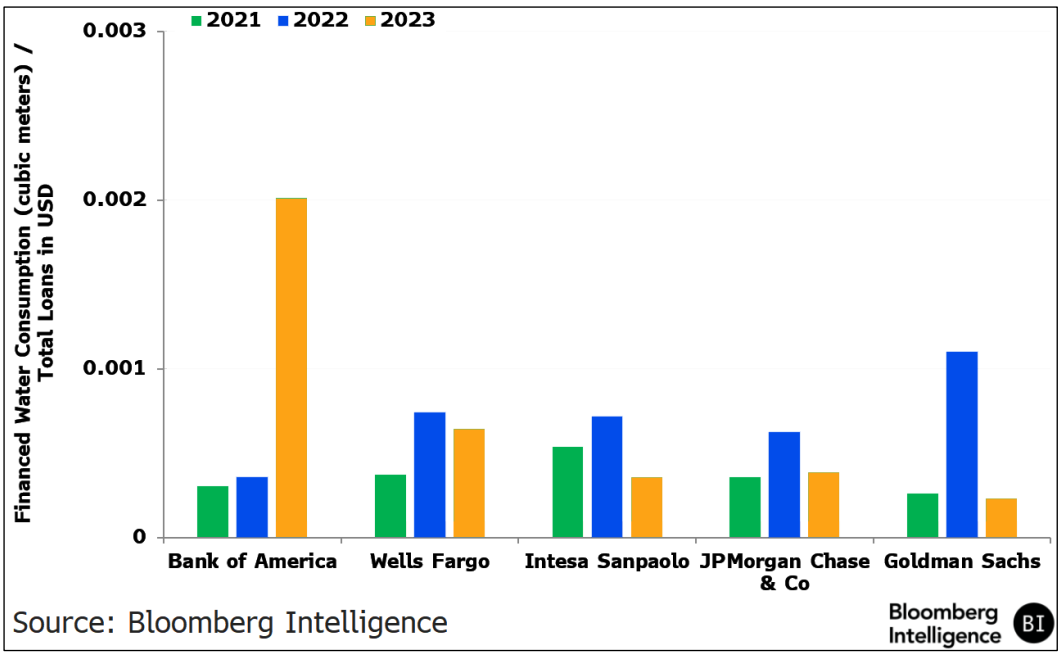
6.1 Similarities, Differences in Emissions Lending

The potential risk associated with financed water consumption is more dependent on company or asset location than is the case with financed emissions.

In 2023, JPMorgan provided loans to several exploration and production companies in the oil and gas industry, including Ovintiv, which consumes more than 11 million cubic meters of water annually, and Gulfport Energy, at 2.6 million cubic meters. But perhaps more important, Ovintiv has considerable operations in the water-stressed Permian Basin and reports that 35% of its freshwater withdrawn is in regions with high or extremely high baseline water stress. Gulfport has no operations in those categories. A 2021 report from the Texas Water Development Board suggests that water demand in its region, which includes the Permian, will outpace supply by 20 billion gallons a year in 2030.

BI **Our analysis can help identify water risks in loan portfolios**

Figure 19: Greatest Financed Water Intensity



Of the top five banks by market value in the US, Europe, the Middle East and Asia, none set goals to reduce financed water consumption, according to our analysis. Though the topic hasn't received much focus, we believe financed water will decrease if banks decarbonize their lending portfolios since carbon-heavy industries and activities also are water-intensive. Our BI Carbon Banks analysis of the top 54 lenders globally shows that lending to power generation fell 4% from 2022 to 2023 while financed CO_2 emissions as a proportion of all loans decreased more than 50%. That indicates a shift in lending to power generators that are moving away from fossil fuels and, except for nuclear power, would be accompanied by a decrease in financed water.

Though banks haven't set targets for reducing financed water consumption, most of the 20 analyzed have sustainable finance targets that include water as a category. Lenders appear to be recognizing the need to finance water-related solutions while providing funds to the most water-intensive companies.

Morgan Stanley in 2022 lent more than $315 million to Constellation Energy, which reportedly consumed more than 700 million cubic meters of water the same year though doesn't report the portion of its assets that are exposed to water stress. The bank has a target to mobilize $1 trillion in sustainable finance by 2030 and includes water, wastewater management and efficiency in its list of eligible activities.

To overcome the lack of disclosure of financed-water data, we use Bloomberg's league-table data to derive financed water for lending to the steel, power and oil and gas industries. Loan value as a portion of a portfolio company's enterprise value including cash is applied to the borrower's total water consumption, along the lines of the Partnership for Carbon Accounting Financials methodology for financed CO_2 emissions. The analysis depends on loan data reported to Bloomberg and captured on LEAG<GO> and the level of disclosure varies by region. The purpose of the loans isn't reported, and loans to private companies aren't included due to a lack of data from the borrowing companies on water consumption. Lending data for four companies in our peer set didn't allow for analysis of financed water.

Section 7. Solutions and Opportunities

Agriculture, AI, Municipalities to Spark Demand

Given that water scarcity is intensifying, revenue is likely to rise for companies that offer water-related solutions, such as Xylem, Ecolab, Lenovo and Veolia Environnement. Desalination, water treatment, lab-grown cotton and cooling data servers could be areas of growth.

7.1 Desalination, Data Center Efficiency Are Growing Markets

Desalination could play an increasingly important role as freshwater demand is expected to outpace supply by 40% globally by 2030, according to the Global Commissions on the Economics of Water. The market could grow at a compound annual rate of more than 8%, with potential to expand to nearly $50 billion by 2032, according to estimates from Morgan Stanley and Fortune Business Insights. Leading providers including Acciona, Doosan Heavy, Wabag and Veolia stand to benefit. Veolia targets a 50% boost in revenue from water-treatment technology by 2030. The company's portfolio focuses on desalination, treatment of micropollutants, reuse of wastewater, providing ultrapure water and recovery of strategic metals and salts.

BI **Lenovo, Google are taking steps to increase efficiency and reduce water use**

The increase in water used to cool data centers to meet energy demand from AI is driving innovation and opportunity. Lenovo's Neptune servers use liquid cooling to lower power consumption by 40%. In November the company reported a 48% increase in Neptune server revenue from a year earlier, and demand is likely to grow. Alphabet's Google, which said annual water consumption increased 86% to nearly 6.4 billion gallons from 2019 to 2023, is designing its own processing chips to use less power and water. AI demand will account for 1.1 trillion to 1.7 trillion gallons of water annually by 2027, according to the World Economic Forum, or as much as six times Denmark's total annual withdrawal.

Companies that can help boost water use efficiency likely will be well-placed. The global water-treatment market is projected to reach $617 billion by 2032, growing at a 7.5% compound annual rate from 2023. Ecolab's offerings, like 3D TRASAR, have delivered measurable gains, saving Kraft Heinz 51 million gallons of water and $1.2 million. Through its water monitoring and treatment products, Ecolab helped Exelon Generation save 1.6 billion gallons of water and $5 million. Revenue in Veralto's water quality segment is projected to grow 40% to $4.2 billion by 2030.

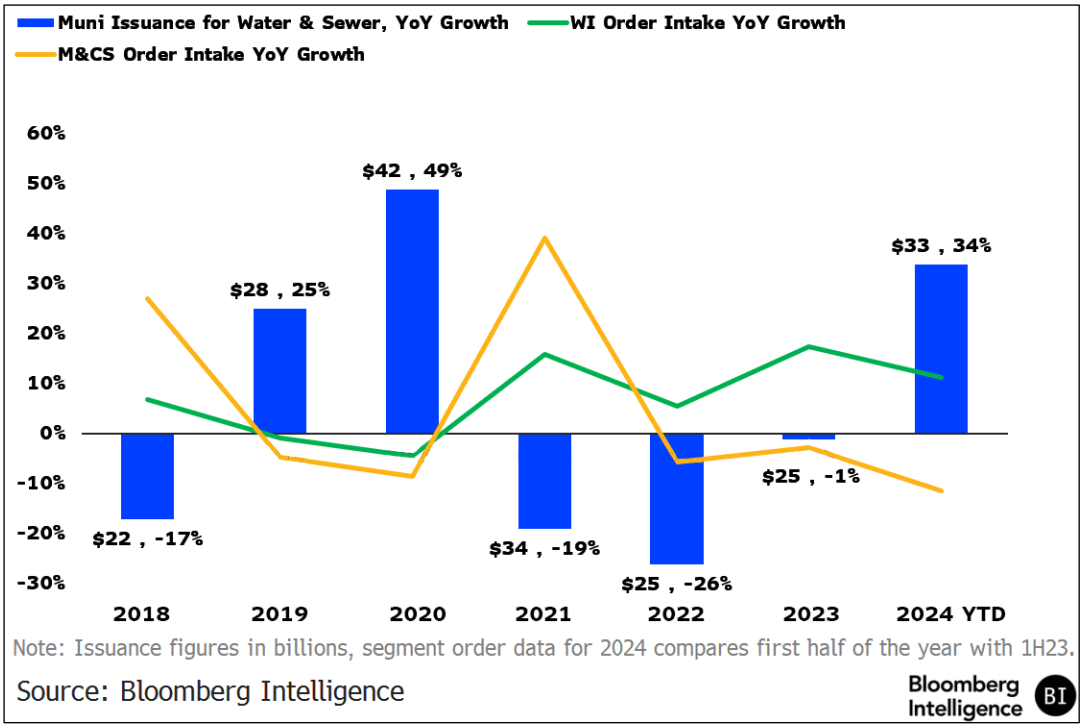
The $60 billion global cotton market, accounting for about 20% of textiles, is a challenge for the apparel industry since the plant is among the 10 most water-intensive crops. Certified organic cottons that promise responsible agricultural practices fetch significant price premiums. Wood-based fibers such as viscose are gaining market share, rising to 7.9% in 2023 from 2.8% in 2000, potentially benefiting providers like Lenzing. The startup Galy is developing lab-grown cotton, which could reduce water and land use by at least 97%. New regulations pose an 8% threat to Ebit for apparel companies that fail to adjust their materials mix, while those that do could lift profit 6% over time, according to analysis by BCG.

7.2 US Infrastructure Market to Reach $109 Billion by 2028

The US water infrastructure repair-technologies market is expected to grow $109 billion by 2028 from $74 billion in 2023.

Xylem, serving a $700 billion addressable market, is well-positioned thanks to its breadth and scale, supporting its outlook for long-term growth in midsingle digits. The company offers smart monitoring, filtration and disinfection technologies to optimize energy use and minimize downtime for utilities and industrial customers. Municipal bond issuance reached $33.4 billion for water and sewer projects in 2024, which may accelerate demand for Xylem's Water Infrastructure (WI) and Measurement and Control Solutions (M&CS) segments in 2025 (Figure 20).

Figure 20: US Muni Bond Issuance; Xylem WI, M&CS Growth



Note: Issuance figures in billions, segment order data for 2024 compares first half of the year with 1H23.

Source: Bloomberg Intelligence

Bloomberg Intelligence BI

BI

Spending to clean up forever chemicals is expected to reach $300 billion by 2040

Meanwhile, projected spending of $300 billion to clean up forever chemicals for 2021-40 may accelerate after regulations on US federal contamination limits for drinking water were enacted. Liquids could account for two-thirds of the spending, driven by concerns about the water supply as a potential exposure pathway. That can include upfront costs to equip water and wastewater treatment plants to filter out PFAS substances. Landfills may also need to be outfitted with systems to process leachate to avoid groundwater contamination.

Capital expenditures might account for 50% of total liquids remediation spending, which we assume will occur over five years. Operating expenses would account for the remaining 50%.

Section 8. Setting Targets

Goals for Water Use Lag Behind Carbon Dioxide Emissions

Companies don't appear as focused on reducing water consumption as on CO_2 emissions. Of the top 10 by market capitalization in each of the most water-intensive industries, 65% have set reduction goals, according to our analysis. About a third – including Shell, Nestle and Anheuser-Busch InBev – are on track to meet or have met targets.

8.1 Enel Leads Power Sector; Shell, Sinopec Lead Oil

BI

Enel is 82% toward its 2030 goal for freshwater withdrawal

Power generation faces mounting water risks, with thermal and hydropower plants heavily reliant on the resource for cooling and production. Of the 10 largest integrated electric utilities and power generators, just Enel, Engie, Duke Energy and Iberdrola have set water-reduction targets. Enel leads, progressing 82% toward its 2030 goal of a 65% reduction in freshwater withdrawal intensity. Freshwater accounted for 43% of the nearly 38 billion cubic meters withdrawn by the group in 2023. Engie aims to reduce freshwater intensity by 70% by 2030. Iberdrola is among the most exposed, withdrawing 68% of its water from water-stressed areas.

Figure 21: Integrated Electric Utility Water Targets, Progress

Security Name	Progress to Date	Annualized Reduction Latest	Annualized Reduction Target	Target Year	Target
IBERDROLA SA	17%	5.6%	10.5%	2030	2030 target: 63% reduction in specific water consumption intensity (from 2021 levels) (32% reduction by 2025, 36% by 2026). Not on track.
ENGIE	25%	4.7%	10.4%	2030	2030 target: 70% reduction in freshwater consumption intensity (from 2019 levels) to 0.1 m3/kWh. Not on track.
DUKE ENERGY CORP	27%	0.7%	1.5%	2030	2030 target: 1 trillion gallons reduction in water withdrawals at generation facilities (from 2016 levels). Not on track.
ENEL SPA	82%	12.0%	7.8%	2030	2030 target: 65% reduction in specific freshwater withdrawal intensity (l/kWh) (from 2017 levels) (58% by 2026). On track.

Notes: ND = not disclosed. Progress to date reflects percentage of target the company achieved as of latest year available.

Source: Company Filings, Bloomberg Intelligence

Bloomberg Intelligence BI

Just six of the 10 largest integrated oil companies have committed to reduce consumption, though water use, like that tied to fracking, is critical. Of the six, four disclosed sufficient data to assess progress, with TotalEnergies and Petrobras on track to meet their targets and Sinopec and Shell exceeding theirs (Figure 22). Shell surpassed its 2025 goal to reduce freshwater consumption by 15% in water-stressed areas. From 2021 to 2023, four companies reduced freshwater withdrawals, with the group's average freshwater use intensity decreasing 12%, led by BP with a 46% cut. The industry's heavy reliance on water-intensive operations underscores the need for broader and more transparent commitments to mitigate risks and ensure long-term resilience.

Figure 22: Integrated Oil Water Targets, Progress

Security Name	Progress to Date	Annualized Reduction Latest	Annualized Reduction Target	Target Year	Target
PETROCHINA-H	ND	-	-	2024	2024 target: 0.478 m^3 freshwater consumption per tonne of crude oil processed; 6 million m^3 water saving target.
BP PLC	ND	-	6.7%	2035	2035 target: 100% water positive (20% by 2025).
TOTALENERGIES SE	26%	2.7%	2.4%	2030	2030 target: 20% reduction in freshwater withdrawals in water-stress zones (from 2021 levels). On track.
PETROBRAS-PREF	60%	12.8%	5.5%	2030	2030 target: 40% reduction in freshwater withdrawals (from 2021 levels). On track
SINOPEC CORP-H	100%	1.0%	1.0%	-	On-going minimum annual reduction of 1% of industrial water intake. Target was surpassed
SHELL PLC	213%	7.4%	2.3%	2025	2025 target: 15% reduction in freshwater consumption in water-stressed areas (from 2018 levels). Target was surpassed

Notes: ND = not disclosed. Progress to date reflects percentage of target the company achieved as of latest year available.

Source: Company Filings, Bloomberg Intelligence

Bloomberg Intelligence BI

8.2 Progress in Beverage, Packaged Food, Apparel Is Uneven

Beverages require a high share of water relative to production, with alcoholic products using more water than soft drinks. Ambitions and progress vary widely as many large companies have set targets to reduce water intensity. Coca-Cola had achieved about 50% of its goal to reduce intensity by 20% from 2015 to 2030, then moved away from that goal late last year but retained water-replenishment targets. PepsiCo met an interim goal and aims to reduce companywide intensity 50% over the same period. Keurig Dr Pepper has realized about 5% of a targeted 20% reduction from 2017 to 2025. PepsiCo and other companies have more aggressive goals to lower water intensity in regions with high water stress.

Figure 23: Beverage Water Targets, Progress

Security Name	Usage Target Progress to Date	Annualized Reduction Latest	Annualized Reduction Target	Target Year	Target/Performance Details
COCA-COLA CO/THE*	NA				Replaced old 2030 target aiming for 20% water use ratio reduction, from 2015 - had met about 50%. Other: Exceeds goal to return 100% of water used in finished goods.
PEPSICO INC	17%	0.0%	3.7%	2030	NEW 2030 target (met 2025 25% reduction target in high stress areas early): 1/3 reduction in beverage water use in high water risk facilities from 2021 base. Meeting overall water goals would reduce company owned water use in food/beverage 50% vs 2015.
MONSTER BEVERAGE	NA				Company expects to establish goals within 2 years. Established water stewardship policy in Dec-23
KEURIG DR PEPPER	7%	-2.0%	2.5%	2025	2025 target: 20% improvement in water efficiency from 2017 base by 2025. Other: by 2030 annually replenish 100% of water used in high risk communities.
KWEICHOW MOUTA-A	150%	7.5%	5.0%	2023	Exceeded 2023 target of 5% reduction in Kweichow Moutai production area with a 7.5% drop in 2023. 2.5% drop in Heyixing Branch exceeded 2% goal (also 2023)
ANHEUSER-BUSCH I	87%	4.2%	5.0%	2025	Met 2025 goal of 2.8 hl/hl (vs 2017) early, in 2019. Set new goal of 2.5 hl/hl by 2025 (2.0 hl in areas of high water stress)
WULIANGYE YIBI-A	NA				
DIAGEO PLC	52%	3.7%	2.7%	2030	2030 target: 30% improvement in water use across the company (from 2020 levels), 40% improvement in water use efficiency in water-stressed areas (from 2020 levels)
CONSTELLATION-A	NA				Goal to restore 5 billion gallons withdrawn from local watersheds between FY 2023-2025. Restored 1.1 billion through 2023 with 4 billion remaining.

Notes: NA = not applicable. Progress to date reflects percentage of target the company achieved as of latest year available. * = Limited disclosure on progress (e.g. no data on baseline year).

Source: Company Filings, Bloomberg Intelligence

Bloomberg Intelligence BI

BI

Coca-Cola withdrew its water reduction goal last year

Packaged-food companies face growing pressure to address water risks in supply chains and processing, particularly in water-stressed regions. Among the 10 largest by market cap, eight have set reduction targets, with median progress of 95%. Yili, Nestle and Mondelez International have exceeded goals. They and Kraft Heinz, which isn't on track to meet its goal, were the top four absolute water users in 2023. Kraft Heinz aims to reduce water-use intensity at manufacturing facilities by 15% from 2019 and to cut by 20% in high-risk watersheds. Though five companies have targets by 2025, only three have tailored their goals to focus on water-stressed areas, reflecting a strategic approach to managing localized risks.

Figure 24: Packaged Food Water Targets, Progress

Security Name	Progress to Date	Annualized Reduction Latest	Annualized Reduction Target	Target Year	Target
HERSHEY CO/THE*	ND	-	1.8%	2030	2030 target: 20% reduction in water use at priority sites where water is most scarce (from 2018 levels).
KRAFT HEINZ CO/T	54%	2.1%	2.7%	2025	2025 target: 15% reduction in water use intensity (per metric tonne of product) across manufacturing facilities (from 2019 levels); 20% reduction in water use intensity across manufacturing facilities in high-risk watershed areas. Not on track
LINDT&SPRUENGLI	80%	2.1%	1.7%	2025	2025 target: 10% reduction in municipal water withdrawal for use in the production processes per tonne of product (from 2019 levels). On track
KELLANOVA	93%	4.0%	2.3%	2030	2030 target: 30% reduction in water use globally in company-owned manufacturing facilities in high water stress regions (from 2015 levels) On track
DANONE	95%	-94.8%	-12.5%	2030	2030 target: 100% of production sites to have implemented water 4R approach. On track
NESTLE SA-REG	128%	384.0%	300.0%	2023	2023 target: 6 million m3 reduction in water use in company factories (from 2021 levels). Target was surpassed
MONDELEZ INTER-A	150%	3.2%	1.5%	2025	2025 target: 10% reduction in absolute water usage in priority sites by 2025 (from 2018 levels). Target was surpassed
INNER MONG YIL-A	167%	2.5%	0.8%	2025	2025 target: 3% reduction in water consumption for production (from 2021 levels). Target was surpassed

Notes: ND = not disclosed. Progress to date reflects percentage of target the company achieved as of latest year available. * = Limited disclosure on progress (e.g. no data on baseline year).

Source: Company Filings, Bloomberg Intelligence

Bloomberg Intelligence BI

BI

Yili, Nestle, Mondelez and Kraft Heinz were the top four absolute water users in 2023

The apparel industry has a water-intensive supply chain, particularly in raw-material production and processes like dyeing and finishing. Though all of the 10 largest apparel companies by market cap have set reduction targets, progress is uneven (Figure 25). On average, they have achieved 55% of their goals, but only Adidas, Fast Retailing, Hennes & Mauritz and Hermes International are on track or have exceeded them. Hermes is the sole company to exceed its goal for annual reductions of 5% from 2018 to 2030, and Adidas is the only one on track to meet its 2025 target, having achieved 83%.

Figure 25: Apparel Water Targets, Progress

Security Name	Progress to Date	Annualized Reduction Latest	Annualized Reduction Target	Target Year	Target
DECKERS OUTDOOR	ND	-	-	2030	2030 target: reduce to or maintain +/- 2% water usage per pair among footwear packaging materials (from 2019 levels).
LVMH MOET HENNE	ND	-	-	2030	2030 target: 30% reduction in the Group's water take across operations & value chain (baseline year not disclosed).
FAST RETAILING	ND	-	2.1%	2025	2025 target: 10% reduction in water use per unit at partners factories that account for 80% of total water consumption (from 2020 levels).
KERING	20%	7.0%	3.3%	2035	2035 target: 35% reduction in water consumption at its directly owned tanneries (from 2022 levels). On track
INDITEX	25%	2.1%	5.6%	2025	2025 target: 25% reduction in water consumption in the supply chain (from 2020 levels). Not on track
LULULEMON ATH	35%	3.5%	5.4%	2025	2025 target: 20% reduction in freshwater use intensity (litres per kilogram of total raw material production) by priority wet process suppliers (from 2021 levels). Not on track
NIKE INC -CL B	40%	3.4%	5.6%	2025	2025 target: 25% reduction in freshwater use per kg in textile dyeing and finishing (from 2020 levels). Not on track
H & M	47%	14.0%	4.4%	2030	2030 target: 30% reduction in absolute freshwater extraction (from 2022 levels). On track
ADIDAS AG	83%	6.5%	6.2%	2025	2025 target: 40% reduction in water intensity (m3/total product output value in US$) at Tier 2 supplier facilities (from 2017 levels), and 15% reduction in consumption intensity (m3/m2) in own operations (from 2019 levels). On track
HERMES INTL	137%	17.9%	5.0%	2030	2030 target: 5% per year reduction in water consumption (m3 per million euros of turnover) (from 2018 levels). Target was surpassed

Notes: ND = not disclosed. Progress to date reflects percentage of target the company achieved as of latest year available.

Source: Company Filings, Bloomberg Intelligence

Bloomberg Intelligence BI

8.3 Half of Agricultural, Chemical Companies Set Targets

Managing water risks is critical for agricultural producers and wholesalers to secure a reliable supply of raw materials, avoid operational disruptions and reduce long-term price pressures, yet just five of the top 10 we analyzed disclose specific reduction goals. Ingredion aims to cut water-use intensity in all high-stress areas by 30% from 2019 to 2030.

Figure 26: Agriculture Water Reduction Targets and Progress

Security Name	Progress to Date	Annualized Reduction Latest	Annualized Reduction Target	Target Year	Target
SD GUTHRIE	0%	0.0%	6.0%	2023	2023 target: 6% annual water intensity reduction (from 2018 levels of 1.4 m3/tonne FFB). Not on track
INGREDION	7%	0.5%	3.2%	2030	2030 target: 30% reduction in water intensity in extremely high-stress manufacturing geographies (from 2019 levels). Not on track
ARCHER-DANIELS-MIDLAND	42%	1.1%	0.7%	2035	2035 target: 10% reduction in absolute water withdrawal (from 2019 levels). On track
WILMAR INTERNATIONAL*	75%	5.9%	6.8%	2035	2023 target: reduction in water consumption intensity (m3/MT FFB processed) for palm oil mills (from 2016 levels): Indonesia: 1.2, Malaysia, Ghana & Nigeria: 1.3 On track
BUNGE GLOBAL	155%	2.4%	1.0%	2026	2026 target: 10% reduction in freshwater withdrawals globally per tonne of product (from 2016 levels) Target was surpassed 25% reduction in freshwater withdrawals for priority locations in high stressed areas (per tonne of product) (from 2016 levels) Not on track

Notes: * = Wilmar International made partial progress on goal: Indonesia: 0.91 in Sumatra, 1.04 in Central Kalimantan, 1.13 in West Kalimantan, Nigeria: 1.13. Wilmar International's progress to date reflects the lowest progress made within its range of targets; 0.91 in Sumatra versus the targeted 1.2.

Source: Company Filings, Bloomberg Intelligence

Bloomberg Intelligence BI

BI

SQM's goals are among chemicals' most ambitious

Growing water risk is prompting chemical companies to adopt reduction targets, yet just half of the 34 in our peer set have comprehensive goals. SQM is among the most ambitious, aiming to reduce its water consumption 40% by 2030 and 65% by 2040 from 2020 levels. Linde and PPG Industries are focusing their targets in water-stressed regions.

Section 9. Exposure Model, 2030

Power Generation, Steelmaking, Mining at High Risk

Most physical assets of power, steel and mining companies such as Endesa, Fresnillo and Inner Mongolia BaoTou Steel may be exposed to high or extremely high water stress in 2030, according to our analysis, demonstrating how Bloomberg data can be leveraged to identify forward-looking risk.

9.1 Endesa, Frenillo, Inner Mongolia BaoTou at Extremes

Nearly 70% of power plants for Endesa, which produced more than 60,000 gigawatt hours of electricity in 2023, could face high or extremely high water stress in 2030. The Spanish company relies on water-intensive nuclear, combined cycle and classic thermal plants for more than 75% of its total generation, suggesting heightened risk as scarcity intensifies. Its reliance on water is likely to decline with a shift from coal toward gas and renewables. But revived interest in nuclear power, the rising attention to carbon capture and storage, and greater demand for power overall, could offset the decline. Power generation is unique in its exposure to water scarcity since it relies on the resource for fuel and cooling, the latter of which is subject to levels and temperatures.

BI **Nearly 70% of Endesa's plants could face high or extremely high stress by 2030**

Figure 27: Power Water Stress Exposure, 2030

	# of Assets	Low Stress	Low to Medium Stress	Medium to High Stress	High Stress	Extremely High Stress
Integrated Electric Utilities and Power Generation	**3090**	**54%**	**20%**	**12%**	**7%**	**8%**
NextEra Energy Inc	12	17%	17%	25%	25%	17%
Iberdrola SA	29	10%	21%	34%	0%	34%
Enel SpA	226	7%	48%	12%	24%	9%
Engie SA	42	19%	38%	29%	5%	10%
NTPC Ltd	35	31%	26%	20%	6%	17%
Endesa SA	25	8%	0%	24%	16%	52%
RWE AG	15	47%	40%	7%	7%	0%
CEZ AS	28	68%	32%	0%	0%	0%
SSE PLC	77	94%	0%	6%	0%	0%
CLP Holdings Ltd	12	92%	0%	0%	0%	8%
Uniper SE	25	16%	60%	20%	0%	4%
Saudi Electricity Co	40	3%	3%	8%	10%	78%

Note: Assets represent only operational power plants. Wind and solar power plants were excluded from the analysis given these fuel types are not water-intensive. Companies displayed represent the firms with the largest market cap that have at least 10 power plants in our asset coverage.

Source: MAP <GO>, Bloomberg Intelligence

Bloomberg Intelligence BI

Canada's Barrick Gold and Mexico's Fresnillo are among metals and mining companies that may have the most exposure to intensified water scarcity (Figure 28). We find that 57% of Barrick's mines will be in areas of high or extremely high water stress, compared with 70% for Fresnillo by 2030, based on asset-level analysis of mine locations against the World Resource Institute's "business as usual" water-stress levels. Overall, 13% of mines for the top 11 companies by market cap with at least 10 physical assets in our database are in areas that will face extremely high stress.

The WRI found that 16% of the world's land-based critical-mineral mines, deposits and districts are in areas that face high or extremely high water stress.

Figure 28: Mining Water Stress Exposure, 2030

	# of Assets	Low Stress	Low to Medium Stress	Medium to High Stress	High Stress	Extremely High Stress
Metals & Mining	**618**	**61%**	**12%**	**5%**	**9%**	**13%**
Rio Tinto PLC	18	83%	11%	0%	0%	6%
Freeport-McMoRan Inc	17	35%	0%	18%	0%	47%
Glencore PLC	30	67%	13%	3%	10%	7%
Newmont Corp	12	50%	0%	8%	0%	42%
Anglo American PLC	23	43%	13%	0%	26%	17%
Barrick Gold Corp	16	44%	0%	0%	13%	44%
Gold Fields Ltd	10	80%	10%	10%	0%	0%
Anglogold Ashanti Plc	20	55%	40%	0%	0%	5%
Boliden AB	10	90%	10%	0%	0%	0%
Fresnillo PLC	10	0%	30%	0%	10%	60%
KGHM Polska Miedz SA	10	50%	20%	0%	0%	30%

Note: Assets represent only active mines. Companies displayed represent the firms with the largest market cap that have at least 10 power plants in our asset coverage. Metals & Mining includes precious and base metals.

Source: MAP <GO>, Bloomberg Intelligence

Bloomberg Intelligence BI

BI

Inner Mongolia BaoTou Steel is heavily exposed to high and extremely high stress areas

Baoshan Iron & Steel and Inner Mongolia BaoTou Steel Union are among the world's top steel companies with the greatest portion of assets exposed to either high or extremely high water stress, based on the WRI's scenario for 2030 (Figure 29). The aggregate view of exposure provides a unique look at companies, as scarcity will likely affect the steel industry's cooling needs. The analysis looks at the top 10 steel producers in our asset coverage by market cap with at least 10 manufacturing facilities. The World Steel Association says 90% of water withdrawn is ultimately released back to the source. Yet the average intake for integrated plants is 28.6 cubic meters per metric ton of steel, demonstrating a significant reliance on the resource.

Figure 29: Steel Water Stress Exposure, 2030

	# of Assets	Low Stress	Low to Medium Stress	Medium to High Stress	High Stress	Extremely High Stress
Steel Producers	**4538**	**39%**	**22%**	**18%**	**11%**	**10%**
Nucor Corp	308	46%	22%	15%	7%	10%
JSW Steel Ltd	22	45%	9%	14%	9%	23%
Tenaris SA	69	38%	29%	14%	9%	10%
Nippon Steel Corp	230	36%	29%	21%	8%	6%
Baoshan Iron & Steel Co	38	26%	16%	11%	29%	18%
ArcelorMittal SA	333	45%	21%	23%	5%	6%
Steel Dynamics Inc	106	42%	22%	25%	8%	4%
Tata Steel Ltd	116	45%	17%	21%	4%	13%
POSCO Holdings Inc	110	15%	31%	18%	18%	17%
Inner Mongolia BaoTou Steel Union Co Ltd	14	0%	0%	7%	14%	79%

Note: Assets represent only active manufacturing sites. Companies displayed represent the firms with the largest market cap that have at least 10 power plants in our asset coverage.

Source: MAP <GO>, Bloomberg Intelligence

Bloomberg Intelligence BI

Section 10. Performance and Valuation

Less Than Half of Water Index Tops Broader Market

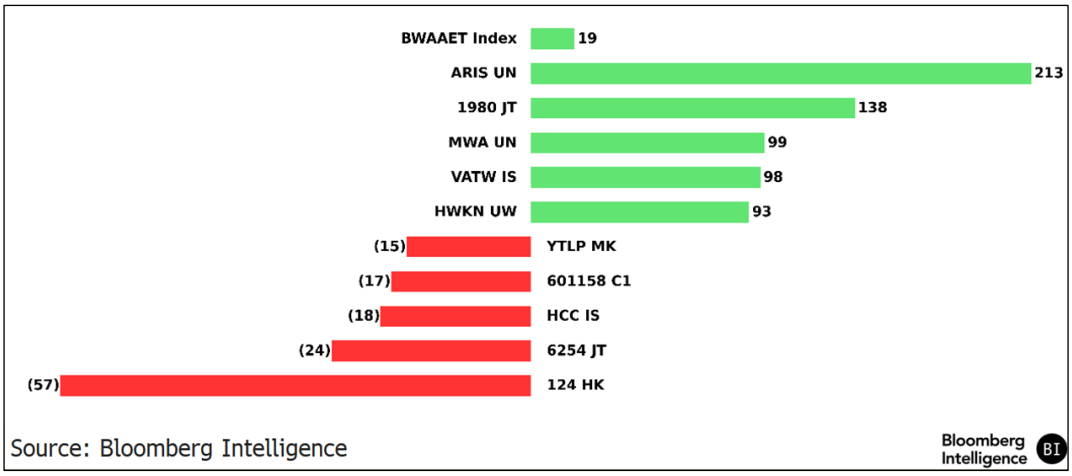
Among constituents of the Bloomberg Water Equal Weight Total Return Index, 73% had positive returns and 44% outperformed the 17% return of the Bloomberg World Industrials Large, Mid & Small Cap Total Return Index for the trailing year through Feb. 6. BI's Water Theme includes water utilities, equipment and technology, and infrastructure and services. Companies with the highest exposure to water risk tend to exhibit the highest volatility in price-to-sales ratio.

10.1 Performance: Infrastructure and Services Lead Returns

The Bloomberg Water Equal Weight Total Return Index (BWAAET) returned 19% on a trailing one-year basis. Aris Water Solutions, Mueller Water Products and Hawkins (in equipment and technology) and Dai-Dan and VA Tech Wabag (infrastructure and services) had the highest returns. YTL Power International and Chongqing Water Group (water utilities), Hindustan Construction (infrastructure and services) and Nomura Micro Science (equipment and technology) had the worst.

BI **Aris Water Solutions and Dai-Dan topped returns over the past year**

Figure 30: Bloomberg Water Equal Weight Total Return Index, One-Year Leaders, Laggards



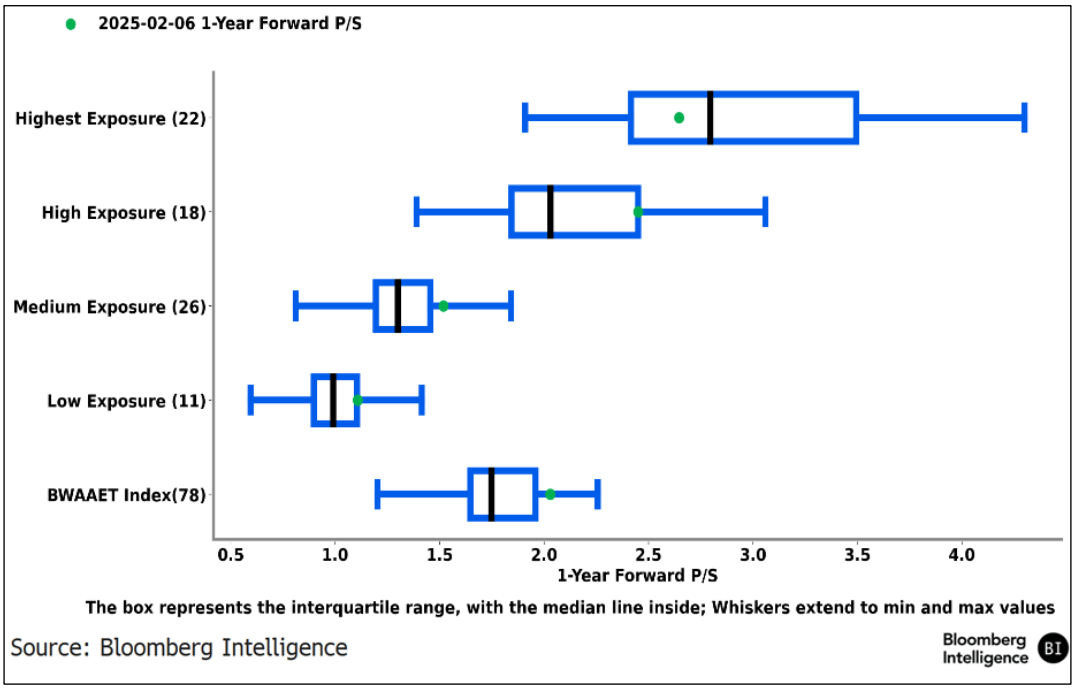
For comparison, BI has identified three water exchange-traded funds, which primarily provide industrials and utilities industry exposure. The First Trust Water ETF had the highest trailing one-year return, at 13%, while the Invesco S&P Global Water Index ETF had the lowest, at 9.9%. The largest fund, the Invesco Water Resources ETF, with $2.17 billion in assets under management, returned 12%.

10.2 Valuation: Index Trades Above Six-Year Median

Badger Meter, Geberit and York Water had the highest valuations

Our highest exposure group had the highest volatility on one-year forward price-to-sales ratio since 2018. Low exposure had the lowest volatility. The full index traded above the median since 2018. The three stocks with the highest valuation are Badger Meter and Geberit (equipment and technology) and York Water (utilities). The lowest valuations are Webuild and Alkhorayef Water & Power Technologies (infrastructure and services) and ION Exchange India (equipment and technology).

Figure 31: Forward Price/Sales Distribution Since 2018



Section 11. Company Impacts

Scaling Hurdles, From Livestock Feed to AI Data Centers

Revenue growth could accelerate for service providers that help water users grapple with scarce supplies and pollution, and companies like foodmakers will need to adjust their offerings. Meanwhile, Gen AI promises to add stress as the tech industry's needs to cool data centers climb. Banks face risks in financing water-intensive industries. Here are the effects for select companies.

Solutions Providers

11.1 Ecolab Performs Well in Data Centers, Microelectronics

Market Cap (USD Bn)		75.66
Share Price (USD)		267.34
Earnings Per Share* (USD)		P/E
2024A	6.65	40.20
2025E	7.49	35.67
2026E	8.48	31.52

* Bloomberg Consensus

$10 Billion
Approximate water sales, 2024

300 Billion
Water savings target in gallons by 2030

Company Outlook: Ecolab generated about $16 billion in sales last year, with water accounting for 70-90% of institutional and specialty and industrial segment sales. It has identified a 2025 innovation pipeline that could add $1.7 billion in revenue over five years. The company works with industries including food, lodging and data centers to manage resources. Ecolab aims to save 300 billion gallons of water by 2030, positioning it to capitalize on attempts to address greater scarcity. The company also is positioning itself to participate in growth markets like data centers.

Water Impact: With water-related sales making up roughly 70% of total revenue, Ecolab is deeply tied to managing the resource. The company's industrial segment logged 3% organic growth in the fourth quarter, with water a key driver amid strong performance in downstream and high-tech sectors such as data centers and microelectronics. Ecolab's Monterrey, Mexico, facility highlights its approach to water stewardship, with initiatives such as rainwater collection, osmosis rejection water recovery and wastewater treatment.

11.2 Veolia Sales Set for Growth From PFAS Regulation

Market Cap (EUR Bn)		20.35
Share Price (EUR)		27.47
Earnings Per Share* (EUR)		P/E
2023A	1.82	15.06
2024E	2.05	13.37
2025E	2.25	12.21

* Bloomberg Consensus

€18 Billion
Water revenue, 2023

€1 Billion
Revenue target for PFAS, new pollutant treatment by 2030

Company Outlook: Veolia is among the world's largest environmental companies, with €45 billion in revenue in 2023. The 2022 acquisition of Suez Environmental fortified its position as a leader in the market for waste, water and energy services in Europe and the US. The company's Green Up strategy, unveiled last year, will rely on renewable energy, water technologies and hazardous waste treatment to accelerate growth.

Water Impact: Veolia, with about 40% of 2023 revenue derived from water services, stands to gain from rising demand for hazardous waste treatment and water filtration, driven by tightening PFAS regulations. Its 2024 Green Up strategy targets a 6-10% CAGR in revenue from a base of €4.7 billion and 10% Ebitda growth. Veolia's US hazardous waste platform includes incinerators, landfills and deep-well injection sites, while its water segment serves utilities, municipalities and industries globally. By 2030, it aims to increase water technology revenue by 50% and generate €1 billion from PFAS and new pollutant treatment.

Supply Chain

11.3 McDonald's Grapples With Increased Cattle Feed Costs

Market Cap (USD Bn)		219.13
Share Price (USD)		303.05
Earnings Per Share* (USD)		P/E
2024A	11.72	25.86
2025E	12.33	24.58
2026E	13.33	22.74

* Bloomberg Consensus

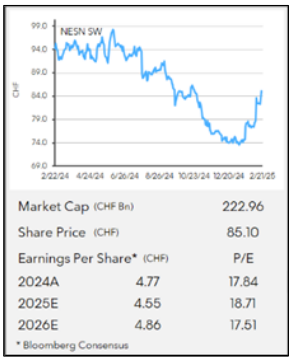
$25 Billion
Annual chicken sales

1951
Last time US cattle inventory was as low as current level

Company Outlook: McDonald's US same-store sales might grow this year as E. coli fears fade, operations improve and chicken and digital sales rise. We believe the new McValue menu in the first quarter and new food items including Snack Wraps and chicken strips also can boost results. International comparable sales may improve in the Middle East and countries with large Muslim populations as McDonald's laps the start of the Israel-Hamas war and enjoys easier comparisons in China. The chain aims to attract cash-strapped, low-income consumers with its value menu and more meal deals. Adjusted operating margin may expand from last year's 46.3% on sales leverage.

Water Impact: Drought has reduced the availability of cattle feed, raising the cost. In response, cattle herds have shrunk to more than 70-year lows and beef prices have increased. Consumer habits have also evolved, favoring chicken which has registered faster global growth than beef. McDonald's has capitalized on the trend, with chicken sales climbing to $25 billion, comparable to beef. The company could add a point of chicken market share by the end of 2026.

11.4 Nestle Adjusts to Record Prices for Cocoa, Coffee



Market Cap (CHF Bn)	222.96
Share Price (CHF)	85.10
Earnings Per Share* (CHF)	P/E
2024A	4.77	17.84
2025E	4.55	18.71
2026E	4.86	17.51

* Bloomberg Consensus

$3 Billion
Estimated annual cocoa purchase

$1 Billion
Investment in regenerative agriculture

Company Outlook: Nestle CEO Laurent Freixe must quickly revive growth in volume and mix to meet the company's new goal of more than 4% organic sales expansion from the midsingle-digits. Increasing advertising to 9% of revenue, about 1% higher, and innovation will be key to driving consumers to its premium offerings to be able to comfortably meet guidance and monetize its global leadership positions in markets such as coffee, pet care and nutrition. The sales mix should be aided by 19% of sales coming from e-commerce.

Water Impact: Nestle depends heavily on several raw materials exposed to water risks, including cocoa and coffee, prices for which have surged to records in recent months due largely to the impact of drought on harvests. The company spends about $3 billion annually on cocoa alone, given recent highs. Nestle has reoriented sales to focus on products like coffee pods, which are less bean-intensive, and is investing more than $1 billion in regenerative agriculture.

Technology

11.5 3M Continues to Field Litigation Over Forever Chemicals

Market Cap (INR Bn)	308.03
Share Price (INR)	27344.10
Earnings Per Share* (INR)	P/E
2024A	517.90	52.80
2025E	523.50	52.23
2026E	595.60	45.91

* Bloomberg Consensus

$25 Billion
Possible litigation risk

$12.5 Billion
PFAS class-action settlement maximum

Company Outlook: 3M's new leadership is resetting priorities to include reinvigorating growth by shifting R&D toward higher spending on development of new products and improved commercialization processes. A multiyear restructuring is winding down, with additional operational changes and new long-term targets expected. The company is pruning its product portfolio and bigger changes are likely. Litigation could represent a $20 billion to $25 billion overhang, including a $10 billion to $12.5 billion settlement, according to BI Litigation calculations.

Water Impact: 3M has been producing PFAS materials since the 1950s and though it committed to exit all such manufacturing this year, legal challenges remain. Lawsuits over the forever chemicals top 3M's US litigation risks. A $10 billion–$12.5 billion class-action settlement with water authorities excluded claims by state governments, personal-injury claimants and other contamination-related cases. Hundreds of entities opted out of the settlement and are likely to pursue their own lawsuits.

11.6 Alphabet's Google Faces Hurdles Over Data Centers

Market Cap (USD Bn)		2220.65
Share Price (USD)		184.56
Earnings Per Share* (USD)		P/E
2024A	8.04	22.96
2025E	8.99	20.52
2026E	10.50	17.58

* Bloomberg Consensus

$75 Billion

Planned 2025 capital spending, mainly on data centers, servers

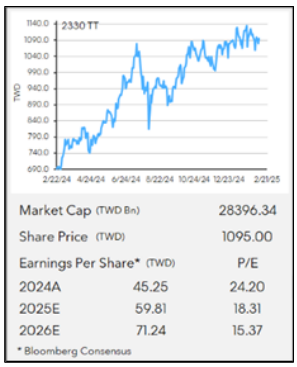
6.1 Billion

Water consumption in gallons, 2023

Company Outlook: Alphabet's traction with new generative AI features, including AI Overviews, Lens and Circle, coupled with computing supply constraints for its cloud segment, support the company's raised outlook for $75 billion in capital spending this year. Gemini's native deployment on Android and Vertex AI will likely aid cost efficiency compared with other foundational large language models. Demand for Gen AI computing bodes well for the cloud segment, where the company is furthest along among hyperscalers with in-house chip development. YouTube TV and Premium could maintain robust subscription sales, now above a run rate of $15 billion yearly.

Water Impact: Alphabet's Google has faced delayed, canceled and denied permits to build and or expand data centers due to resource concerns, particularly for water. As the company and competitors seek to dramatically expand their data-center footprints to deliver on AI potential, water availability could prove a significant constraint. Google is targeting $75 billion investment in data centers this year, some of which will depend on water supply. Success may hinge on initiatives to deploy new efficient technology. One project could boost water efficiency by 50%.

11.7 TSMC Contends With Historic Droughts in Taiwan



Market Cap (TWD Bn)		28396.34
Share Price (TWD)		1095.00
Earnings Per Share* (TWD)		P/E
2024A	45.25	24.20
2025E	59.81	18.31
2026E	71.24	15.37

* Bloomberg Consensus

1.4-1.6 Liters

Water needed to produce 1 liter that is ultrapure for chip production

$625 Million

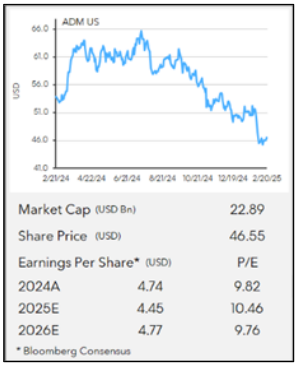
Possible annual revenue at risk due to water scarcity

Company Outlook: Taiwan Semiconductor Manufacturing is well-positioned to outpace rivals in the coming semiconductor cycle, driven by accelerating AI chip demand and chip designers' reliance on the company's advanced process nodes and packaging capabilities. TSMC's dominance in advanced chipmaking technologies will likely shield it from any tariff changes or trade policy shifts following the re-election of President Donald Trump. Still, profitability may be challenged in the near term due to the need to ramp up its 2- and 3-nanometer nodes, mature-node fab utilization and to secure further US subsidies to accelerate its capacity buildout in the country.

Water Impact: TSMC's Taiwan operations have coped with historic droughts in the past five years, requiring significant, costly adjustments, including trucking in water. It is building new plants in Arizona, which also has high water risk. Even before those factories began operating, the company acknowledged that $550 million to $625 million of annual revenue could be at risk due to water scarcity.

Agriculture

11.8 ADM Struggles Amid Disruptions on Mississippi River



Market Cap (USD Bn)		22.89
Share Price (USD)		46.55
Earnings Per Share* (USD)		P/E
2024A	4.74	9.82
2025E	4.45	10.46
2026E	4.77	9.76

* Bloomberg Consensus

$640 Million

Potential cost of production disruptions due to water stress

$414 Million

Cost of carbon sequestration site facing scrutiny

Company Outlook: Archer-Daniels-Midland's profit growth may continue to decline as agriculture production increases and margins narrow, reversing the growth spurred by the past three years of weather-driven supply disruption. The end of US electric-vehicle tax credits may improve and extend its ethanol business. ADM's new businesses are strategically positioned to capture future trends, which could fuel profit growth in coming years. Renewable jet fuel, plant protein and nutrition should be some of its drivers for the next decade. China's move to cut soybean meal in animal feed over the next three years could slightly decrease ADM's origination and crushing business.

Water Impact: ADM contends with considerable water risk and has faced challenges over possible water pollution. Four of its largest processing complexes fed by the Mississippi River face substantial threat from water stress and disturbances to production that could cost as much as $640 million, while disruptions to upstream suppliers from drought might cost $70 million. Additionally, a leak at a $414 million carbon sequestration facility faces scrutiny because of its proximity to local water sources.

Banking

11.9 Bank of America Targets $1.5 Trillion in Sustainables

Market Cap (USD Bn)		348.39
Share Price (USD)		45.30
Earnings Per Share* (USD)		P/E
2024A	3.21	14.11
2025E	3.69	12.27
2026E	4.35	10.41

* Bloomberg Consensus

No. 1

Rank in financed water-consumption intensity among top banks

$1 Trillion

Green financing goal by 2030

Company Outlook: Bank of America's run rate for net interest income is robust, while signs of a trough in mid-2024 and improving loan growth aid its outlook into this year, with provisions expected to stabilize. CEO Brian Moynihan's strategy of pursuing "responsible" organic gains could mitigate economic risks, with profit before provisions a cushion. Expense discipline provides some offset to inflation, while the lender's digital evolution supports competitive advantages.

Water Impact: BofA has the highest financed water-consumption intensity among top banks, due to its lending to heavy-use industries like steel, power and oil and gas. While banks have focused on financed CO_2 emissions, water consumption is an emerging risk as scarcity threatens operations and supply chains. BofA has targeted $1.5 trillion in sustainable finance investments by 2030, including $1 trillion in green lending for environmental transition, which includes water.

11.10 Wells Fargo Leads Lending to Water-Stressed Areas

Market Cap (USD Bn)		260.16
Share Price (USD)		78.63
Earnings Per Share* (USD)		P/E
2024A	5.53	14.22
2025E	5.85	13.45
2026E	6.85	11.48

* Bloomberg Consensus

No. 1

Exposure to companies withdrawing from water stressed areas among top banks

$500 Million

Financing made for sustainable water and wastewater management, 2021-23

Company Outlook: Wells Fargo's core profit and returns could increase as the bank progresses from the fallout that began in 2016, when it was fined over sales practices. Its strategy to restore efficiency will be key to boosting structural profitability, and reduced economic concerns could aid results. Legacy legal risks are likely to keep pressuring earnings as the Federal Reserve's constraints on the size of Wells' balance sheet remains in place. Timing to lift the cap is uncertain despite a revamp of senior management and of more than 80% of the board.

Water Impact: Wells Fargo had the second-highest water intensity in its 2023 loan book among top banks, captured from its financed water consumption over its total lending. Risk associated with financed water consumption depends on company or asset location. Wells' average company water-stress exposure of 32% is the greatest to companies withdrawing the resource from regions with high or extremely high baseline stress. The bank aims for $500 billion in sustainable finance investments in 2030 and made $178 billion in 2021 through 2023, including $500 million allocated toward "other environmental," which includes sustainable water and wastewater management.

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Christopher Cain, Quantitative Analysis, US
Michael Casper, Small Caps and Sectors, US
Marvin Chen, China and North Asia
Nitin Chanduka, Emerging Markets, India
Laurent Douillet, Europe
Anthony Feld, Technical Analysis, Global
Kumar Gautam, Emerging Markets, Global
Gina Martin Adams, Global
Wendy Soong, Americas
Sufianti Sufianti, Emerging Markets, ASEAN
Gillian Wolff, Global

Funds

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David Cohne, Mutual Funds, Global
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Athanasios Psarofagis, Exchange Traded Funds, Americas
James Seyffart, Exchange Traded Funds, Americas
Rebecca Sin, Exchange Traded Funds, APAC

Thematic

Breanne Dougherty, Global
Andrew Silverman, Tax Policy and Corporate Actions, Global
Shirley Wong, APAC
Lu Yeung, Accounting, Global

FICC Strategy

Noel Hebert, Director of FICC Strategy Research

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Negisa Balluku, Litigation-Bankruptcy, Americas
Mahesh Bhimalingam, Credit Strategy, EMEA
Philip Brendel, Distressed Debt, Americas
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Sam Geier, Credit Strategy, Americas
Noel Hebert, Credit Strategy, Americas
Eric Kazatsky, Municipals, Americas
Mike McGlone, Commodity Strategy, Global
Tanvir Sandhu, Derivatives, Global
Damian Sassower, Emerging Markets, Global
Timothy Tan, Credit Strategy, APAC

FX and Rates

Audrey Childe-Freeman, FX, G-10
Stephen Chiu, FX and Rates, APAC
Ira Jersey, Rates,US
Davison Santana, FX and Rates, LatAm
Sergei Voloboev, FX, Emerging Markets, Global
Huw Worthington, Rates, EMEA

ESG Research

Adeline Diab, Director of ESG Strategy Research
Eric Kane, Director of ESG Company Research

Strategy

Manish Bangard, Americas
Adeline Diab, Global
Ortis Fan, APAC
Yasutake Homma, Japan
Rahul Mahtani, Quantitative Analysis, EMEA
Christopher Ratti, Fixed Income, Global

Company and Industry

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Rob Du Boff, Governance, Global
Gail Glazerman, Integration, Americas
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Andrew John Stevenson, Climate, Global
Conrad Tan, Integration, APAC

Market Structure Research

Larry Tabb, Director of Market Structure Research

Jackson Gutenplan, Equities, Americas
Brian Meehan, Fixed Income, Americas
Nicholas Phillips, Equities, EMEA
Larry Tabb, Equities and Fixed Income, Global

Credit Research

Joel Levington, Director of Credit Research

Americas

Himanshu Bakshi, Consumer Finance, Banking, Global
Mike Campellone, Specialty Apparel, Consumer Hardlines, Global
Cecilia Chan, Gaming Lodging & Restaurants, Internet Media, China
Jean-Yves Coupin, Health Care, Corporate Bonds, Americas
Spencer Cutter, Oil & Gas, Global
Stephen Flynn, Entertainment, Cable & Satellite, Americas
Matthew Geudtner, Aerospace, Global, Machinery, Americas
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Mike Holland, Hospitals, Specialty-Generic Pharma, Americas
Julie Hung, Packaged Food, Beverages, Americas
Arnold Kakuda, Investment Banking, Americas
Joel Levington, Automobiles, Global, Industrials, Americas
Jody Lurie, Gaming Lodging & Restaurants, Americas
Robert Schiffman, Hardware & Storage, Internet Media, Global

Asia

Andrew Chan, Real Estate, Infrastructure, China
Sharon Chen, Telecom Carriers, Infrastructure, India
Pri De Silva, Banking, Aerospace & Defense, APAC
Daniel Fan, Real Estate, China
Rena Kwok, Banking, APAC
Mary Ellen Olson, Metals & Mining, Oil & Gas, APAC

EMEA

Tolu Alamutu, Real Estate, Banking, EMEA
Ruben Benavides, Banking, Europe
Aidan Cheslin, Telecom Carriers, EMEA
Jeroen Julius, Banking, EMEA
Stephane Kovatchev, Industrials, Construction, EMEA, Americas
Paul Vickars, Electric Utilities, EMEA, Oil & Gas, Global

Industry Research

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Consumer Products & Services

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Angela HanLee, Gaming & Hospitality, APAC
Drew Reading, Homebuilders, Americas
Deborah Aitken, Luxury, Personal Care Products, Global
Michael Halen, Restaurants, Americas
Conroy Gaynor, Travel & Leisure, EMEA

Retail & Wholesale

Lindsay Dutch, Consumer Hardlines, Retail REIT, Americas
Tatiana Lisitsina, Consumer Hardlines, Online Apparel, EMEA
Poonam Goyal, E-Commerce, Specialty Apparel Stores, Americas
Catherine Lim, Consumer Goods, E-Commerce, APAC
Charles Allen, Retail Staples & Wholesale, Specialty Apparel, EMEA
Mary Ross Gilbert, Specialty Apparel Stores, Americas
Abigail Gilmartin, Athleisure & Footwear, Americas

Consumer Staples

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Kenneth Shea, Beverages, Tobacco & Cannabis, Americas
Diana Gomes, Consumer Health, Household Products, Global
Lisa Lee, Consumer Goods, Health Care, APAC
Ada Li, Consumer Goods, Online Health Care, APAC
Diana Rosero-Pena, Packaged Food, Retail Staples, Americas
Lea El-Hage, Retail Staples, Australia

Energy

Will Hares, Energy Sector Head
Brett Gibbs, Biofuels, EMEA
Talon Custer, Oil & Gas, Americas
Henik Fung, Oil & Gas, Gas Utilities, APAC
Will Hares, Oil & Gas, EMEA
Scott J. Levine, Oil & Gas, Industrials, Americas
Vincent G. Piazza, Oil & Gas, Americas
Salih Yilmaz, Oil & Gas, EMEA
Rob Barnett, Solar Energy Equipment, Americas, EMEA

Utilities

Patricio Alvarez, Electric Utilities, Gas Utilities, EMEA
Nikki Hsu, Electric Utilities, Americas
Kelvin Ng, Utilities, Coal, APAC
Gabriela Privetera, Electric Utilities, Americas

Financials

Financial Services

Ben Elliott, Consumer Finance, Americas
Edmond Christou, Financials, Middle East
Diksha Gera, Global Payments and Fintech, Americas
Salome Skhirtladze, Financials, Middle East

Industrials

Steve Man, Director of Industrial Research

Automotive

Joanna Chen, Automobiles, APAC
Gillian Davis, Automobiles, EMEA
Michael Dean, Automobiles, EMEA
Steve Man, Automobiles, Americas
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Industrial & Industrial Services

George Ferguson, Aerospace & Defense, Global
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Denise Wong, Infrastructure, APAC

Transportation

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Francois Duflot, Airlines, Americas
George Ferguson, Airlines, Global
Conroy Gaynor, Airlines, EMEA
Lee Klaskow, Freight Transportation & Logistics, Global
Kenneth Loh, Marine Shipping, Logistics Services, APAC

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Jason Miner, Agriculture Sector Head
Grant Sporre, Metals and Mining Sector Head

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Alvin Tai, Agriculture, Malaysia, EMEA
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Metals & Mining

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Grant Sporre, Metals & Mining, EMEA

Construction Materials

Sonia Baldeira, Construction, Building Materials, EMEA
Kevin Kouam, Building Materials, Global

Financial Services (Cont'd)

Sarah Jane Mahmud, Banking, Market Structure, ASEAN and India
Alison Williams, Investment Banking, Global
Sharnie Wong, Investment Banking, Exchanges, APAC
Paul Gulberg, Investment Management, Exchanges, Banks Americas
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Maryana Vartsaba, Banking, EMEA

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Health Care

Aude Gerspacher, Director of Health Care Research

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Sam Fazeli, Biotech, Global
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Jonathan Palmer, Medical Devices, Supply Chain, Americas
Matt Henriksson, Medical Equipment & Devices, Americas

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Woo Jin Ho, Hardware & Networking, Americas
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Jake Silverman, Logic ICs, Americas
Kunjan Sobhani, Logic ICs, Americas
Steven Tseng, EMS/ODM, Consumer Electronics, APAC
Masahiro Wakasugi, Semiconductors, EMS/ODM, Global

Software

Tamlin Bason, IT Services, Americas, EMEA
Robert Lea, Internet Media, Application Software, China
Nathan Naidu, Entertainment Content, Internet Media, Japan
Niraj Patel, Application Software, Americas
Sunil Rajgopal, Application Infrastructure Software, Americas
Anurag Rana, Application Software, IT Services, Americas
Mandeep Singh, Software, Internet, Hardware/Semis, Americas

Communications

Media

Matthew Bloxham, Media, Advertising, Telecom, EMEA
Geetha Ranganathan, Entertainment, Cable, Advertising, Americas
Tom Ward, Media, Advertising, Telecom Carriers, EMEA

Telecommunications

John Butler, Telecom & Towers, Infrastructure Software, Americas
John Davies, Telecom Carriers and Media, EMEA
Erhan Gurses, Telecom Carriers, EMEA
Marvin Lo, Telecom Carriers, APAC
Chris Muckensturm, Telecom Carriers, ASEAN

Litigation and Policy

Nathan Dean, Financials Policy, Americas
Holly Froum, Consumer, Industrials Litigation and Policy, Americas
Josephine Garban, Health Care Patent Litigation, Americas
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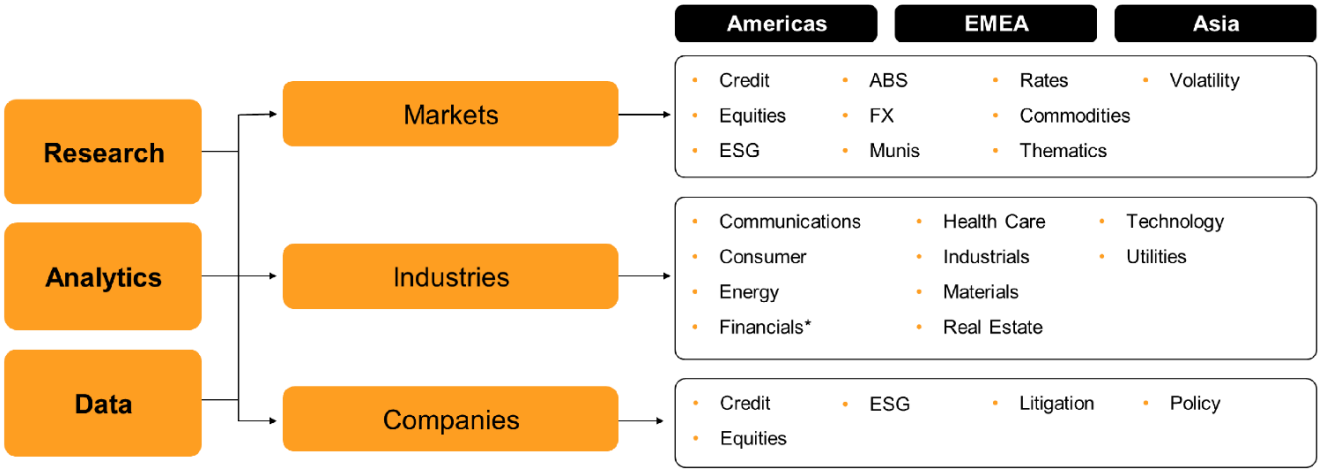

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