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The Ceres Aqua Gauge:

A FRAMEWORK FOR 21ST CENTURY WATER RISK MANAGEMENT

A Ceres Report

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EXECUTIVE SUMMARY



Water-related risks are intensifying around the world, creating societal and business pressures alike. In just the past year, unprecedented droughts have hit water-intensive companies and supply chains in Russia, China and across the southern tier of the United States. Extreme floods have had severe economic impacts in Australia, Pakistan and the Midwestern U.S.

Numerous industries—apparel, beverage, food, agriculture and electric power—felt the financial ripples from these events, whether in higher commodity costs, operational restrictions or reduced earnings.

Even as companies accelerate water efficiency and improved water resource management, these pressures are likely to worsen. Many regions are on course to suffer major freshwater deficits over the next two decades. According to a recent study led by McKinsey, the world may face a 40 percent global shortfall between forecast demand and available supplies by 2030. More than one-third of the world’s population—roughly 2.4 billion people—live in water-stressed countries, and by 2025 that proportion is expected to rise by two-thirds.

These global shortfalls will hit hardest in regions such as East and Southeast Asia where significant investment is fueling unprecedented economic expansion. Growing competition for clean water between industry, agriculture and expanding populations in these and other regions is creating increasingly profound water-related risks—risks that many companies are not yet managing and many investors are not yet considering.

Investors are certainly aware of these trends. More than 350 institutional investors collectively managing \$43 trillion in assets backed this year’s Carbon Disclosure Project water survey sent to 408 of the world’s largest companies. More U.S. investors than ever before are filing shareholder resolutions asking for water-related disclosure from companies in a broad range of sectors,

including food and beverage, oil and gas, and electric power. In addition to pressuring companies to improve disclosure, a number of prominent European institutional investors, including Norges Bank Investment Management, Robeco and Hermes Asset Management, have begun not only to assess water-related risk in their portfolios, but also to directly engage high-risk companies on how they are managing water issues.

But despite increasing corporate water disclosure, it remains challenging for investors to understand how well companies are managing their water risks and capitalizing on opportunities.

Currently, few rigorous tools are available to help investors answer the question, “How well are my portfolio companies managing water risk?” This report fills that gap by introducing the Ceres Aqua Gauge™, a robust framework and methodology to assess corporate water management practices.

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INTRODUCING THE CERES AQUA GAUGE™

The Aqua Gauge is a flexible Excel-based tool and associated methodology that allows investors to scorecard a company's¹ water management activities against detailed definitions of leading practice.² Developed through a nine-month consultation process with representatives from over 50 investment and financial institutions, companies, conservation groups, and other organizations active on water-related issues, the Aqua Gauge builds on the foundation outlined by the *Ceres Roadmap for Sustainability*³—and like the *Roadmap* it focuses on governance and management, stakeholder engagement and disclosure.

The Aqua Gauge is neither a survey nor another channel of corporate disclosure. Its primary aims are to help equity investors *interpret and evaluate the information provided by companies* on their management of water issues, and to provide a framework to guide investor engagement and dialogue with companies.

Investors will need to apply the Aqua Gauge judiciously to companies in sectors and regions most vulnerable to water risks. Guidance on how to identify and prioritize companies for assessment based on sector and geography is provided in **Chapter 4** of this report. A number of third-party data sets and tools already exist to help investors assess sector- or geography-based exposure to water risk (see **Appendix B**).

Beyond helping investors, the Aqua Gauge also benefits companies by giving them a complete picture of leading practice in water management, a resource to help inform and strengthen their own water management strategies, and a methodology for assessing their performance and progress.

DEFINING 21ST CENTURY CORPORATE WATER MANAGEMENT

In developing the Aqua Gauge, the authors conducted extensive interviews with water managers and sustainability executives across a wide range of water-intensive sectors. These sessions confirmed many aspects of the report team's initial thinking, while shedding further light on the complexities of managing water-related risks. The interviewees highlighted a number of overarching themes critical to assessing a company's response to water risks:

→ **Managing an issue as complex as water across a large multinational business requires robust governance and management systems, as well as operational and technical interventions.**

A natural primary focus of a company's approach to water management is in specific operational and technical interventions that directly affect water performance at individual sites. However, there are also a range of other business actions required to manage water issues—governance structures and lines of accountability, policies, and performance standards—that are critical and often overlooked. The Aqua Gauge emphasizes governance and management aspects of water stewardship and is designed to help investors and companies assess whether they have processes and capabilities in place to effectively manage water issues across multiple sites and extended value chains.

→ **Measuring corporate impacts on water resources and ecosystems is difficult.** While some companies regularly collect data on operational water use and wastewater discharges, translating those metrics into measures of local impact—on the water quality of the receiving body, on ecosystems and biodiversity, and on the people and other industries that depend on the shared resource—remains challenging. Company representatives attributed this difficulty to a lack of experience (citing partnerships with NGOs as an important resource) and to a paucity of data in many regions about the underlying conditions of the surface water and groundwater on which they depend.

1 The Aqua Gauge is aimed at companies whose operations, supply chains or products require significant water or have a significant impact on water quality. It is not intended for application to the water utility sector.

2 Throughout this report, the term "leading practice" is used instead of "best practice." Corporate water management is a dynamic area and today's "best practices" are quite likely to be tomorrow's standard operating procedure. In light of this, we have used the term "leading practice" to indicate an approach that is on the leading edge today with the understanding that it will likely evolve.

3 The Ceres Roadmap, published in March 2010, is a vision and practical roadmap for integrating sustainability into the DNA of business. It provides a comprehensive framework for sustainable business strategy and for accelerating best practices and performance. See: www.ceres.org/ceresroadmap

→ **Water management must take into account external factors.** Company representatives observed that many risks arise from external factors such as local regulatory and economic conditions, climate change and the impacts from other water users. The most efficient and low-polluting operation can still be at risk when other users, including factories, farms, or households, overuse or pollute the resource. Corporate responses must take these risks into account in formulating strategies, often in the form of watershed-based collaborations that effectively engage other stakeholders to improve the shared management of water.

→ **Companies need to undertake actions such as scenario planning to surface future risks, as well as assess their current impacts and risks.** Historical hydrologic records—dependable variations in average frequency, duration and intensity of droughts or flooding—may no longer be reliable as reference points for effective risk management. Changing climatic conditions and rapid alterations in land and water use in many regions means that water risk can no longer be managed through the rear view mirror, and forward-looking data sets and risk assessment approaches are required.

→ **Understanding value chain impacts and risks is essential.** In our interviews, companies made clear that effectively managing water risk meant widening the scope of risk assessment and management to their full value chain. For many sectors and companies, water risks in the supply chain or linked to customer use of the product is often as important, or more important, than what goes on within a company's four walls.

→ **Water risk management should not be considered in isolation from other sustainability issues.** While the focus of the Ceres Aqua Gauge is on water, many company representatives noted that water is just one of an increasing number of interconnected sustainability issues that businesses need to address. Some companies already recognize the linkages and trade-offs between water use and energy consumption (e.g., dry cooling systems use less water than wet systems, but generally increase energy requirements), but there are other important connections between water and biodiversity, food security, human rights, health and sanitation, among others. Understanding and managing these trade-offs and exploiting potential synergies should be an increasingly important part of a company's water strategy.

Building on these observations and real world examples of what leading companies are doing today and aspiring to do tomorrow, the Ceres Aqua Gauge brings together a broad range of leading corporate practices for dealing with the complex water management challenges of the 21st century. Outlined in **Chapter 3**, it covers four key categories of corporate activity—1) measurement, 2) management, 3) stakeholder engagement, and 4) disclosure—that comprise a comprehensive approach to addressing water risks and opportunities.





Designed to enable both rapid and more comprehensive analysis, the Aqua Gauge gives the investor the option to assess the company against:

- A short list, or “Quick Gauge,” of core management practices appropriate to the company's risk profile, and
- A comprehensive set of corporate-level practices that provide a more detailed picture of the company's management approach (**Table 1**).

It should be noted because the water-related risks faced by different sectors and companies vary greatly, so should the approach to managing those risks. Thus the Aqua Gauge allows the user to assess the practices most relevant to a particular company's water risk profile—reflecting whether the key risks occur in the company's direct operations, supply chain or products.

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Table 1: Summary of Key Areas of Corporate Water Management Identified in the Aqua Gauge

Category	Subcategory	Description The Company:	Activity
 MEASUREMENT	Data Gathering	<i>Collects and monitors data related to:</i>	1.1 Its own regulatory compliance, water use, and discharge
			1.2 Its own environmental and social impacts on direct water sources
			1.3 External factors affecting direct water sources
			1.4 Stakeholder perceptions and concerns related to water issues
			1.5 Effectiveness of suppliers' water management practices
	Risk Assessment	<i>Identifies and quantifies water-related risks for its:</i>	1.6 Direct operations
			1.7 Supply chain
 MANAGEMENT	Governance	<i>Sets accountabilities for water through:</i>	2.1 Board of directors
			2.2 Senior management
			2.3 Public policy and lobbying positions
	Policies & Standards	<i>Sets performance standards and goals through:</i>	2.4 Publicly available water policy/statement
			2.5 Standards and goals on water withdrawals/consumption for direct operations
			2.6 Standards and goals on wastewater discharge for direct operations
			2.7 Plans to address local watershed risks
			2.8 Supplier standards and codes, procurement and contracting practices
	Business Planning	<i>Integrates water in decision-making related to:</i>	2.9 Business planning and capital allocation
			2.10 Product design and development
			2.11 Opportunity identification
 ENGAGEMENT	<i>Engages with internal and external stakeholders on water-related issues:</i>	3.1 Local communities	
		3.2 Employees	
		3.3 Suppliers	
		3.4 Governments and regulators	
		3.5 NGOs and community groups	
		3.6 Other industries/companies/water users	
		3.7 Customers	
 DISCLOSURE	<i>Discloses:</i>	4.1 Water-related information	
		4.2 Data and analysis related to water in financial filings / reports	
		4.3 Audited /assured water-related data	

HOW TO USE THE AQUA GAUGE

Investors

How investors use the Aqua Gauge will depend on a number of factors, including the investor's approach, style and goals. However, across the investment value chain the Aqua Gauge can benefit a range of decision-makers:

- **Portfolio managers and analysts** can use the Aqua Gauge to identify those companies better positioned to manage water-related risks and opportunities, using this analysis as a negative or positive factor in their investment decision-making process.
- **Governance specialists** at many pension funds and asset management firms already engage directly with their portfolio companies through correspondence, phone calls and meetings on questions of interest and concern. In this case, using the insights and messages developed from the Aqua Gauge as a basis for conversation with a company could provide clarity as well as potentially valuable leverage. The Aqua Gauge can also be a resource in assessing proxy proposals related to water.
- **Financial and ESG data providers** can incorporate elements of the Aqua Gauge into their own analyses, thereby providing their clients with more robust research and analytics on corporate responses to water risks.

Companies

Companies that seek to develop more robust water management strategies will also find value in the Aqua Gauge. Specifically, it can help with:

- **Self-assessment and strategy development.** Companies can use the Aqua Gauge to facilitate internal self-assessment, benchmarking against competitors, and as a resource for engaging key decision-makers and stakeholders within the company. These self-assessments help identify priorities for action and form the basis of a more comprehensive water management approach.
- **Investor communications and engagement.** Companies can use the tool to inform their communications with the investment community, and provide clarity that the company is appropriately managing its water risk. The Aqua Gauge can also inform how a company answers different investor-backed information requests, such as the CDP Water survey.
- **Supplier and industry engagement.** The Aqua Gauge is a helpful tool for building water management awareness and capacity with key suppliers and beneficial as a resource for supplier engagement or assessment. It also serves as a resource for industry-level initiatives, metrics and collaborations related to water management.