

Corporate Response to Water Risks in a Changing Climate

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ACWI Water Resources Adaptation to
Climate Change Workgroup

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Overview

- Water in a changing climate
- Water risks to business
- Corporate response
- Questions



Water Impacts

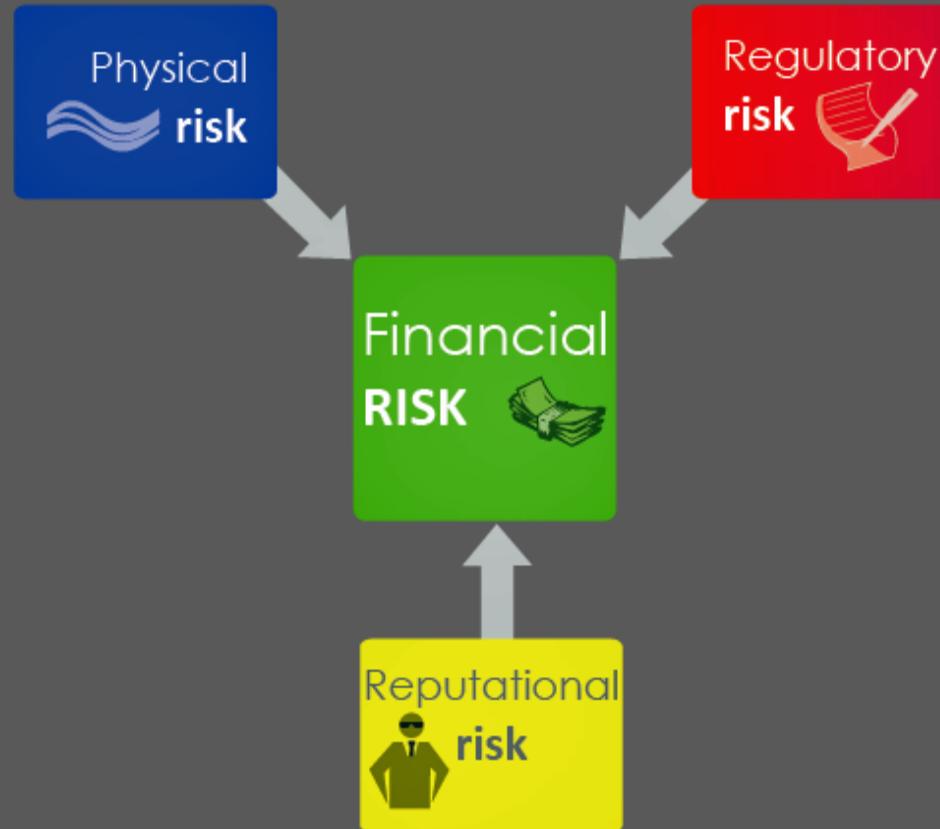
- Availability (timing, form, intensity)
 - Uncertain supply
 - Increased demand
- Water quality
- Accessibility to safe water
- Floods, other hazards



Growing Risks to Business

- ~2/3 corporations expect water risk to cause substantial changes to their business (CDP, 2015)
- ~ 1/2 Corporations identified immediate substantial risk and/or impacts (CDP, 2015)
- Water risk is the number one threat to global economy (World Economic Forum, 2015)

Key Water Risk Drivers



Risks will grow as competition for water increases

Financial Impacts



Value at Risk

Electric Utilities



USD 21 billion in
electricity sales
at risk

Gold



USD 221 billion in
gold reserves
at risk

Steel



USD 17 billion in
steel sales at risk

Water Risk → Financial Risk → Equity Volatility Risk

Efficiency in Operations

Improve water efficiency in our plants by 20% by 2020



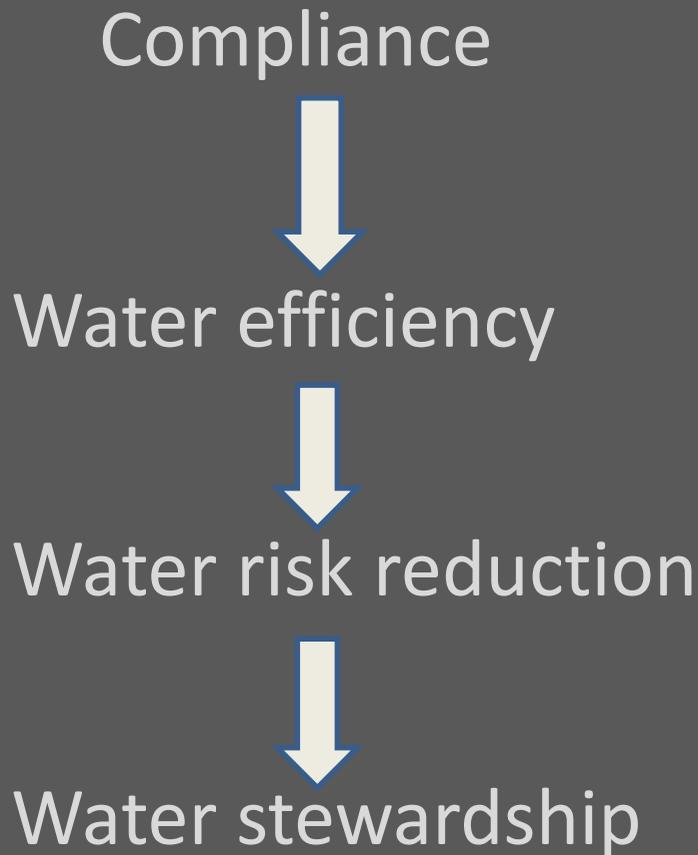
By 2020, improve water efficiency in manufacturing operations by 25%



By 2015, our water consuming products such as taps, dishwashers and washing machines shall be 50% more efficient than average products...



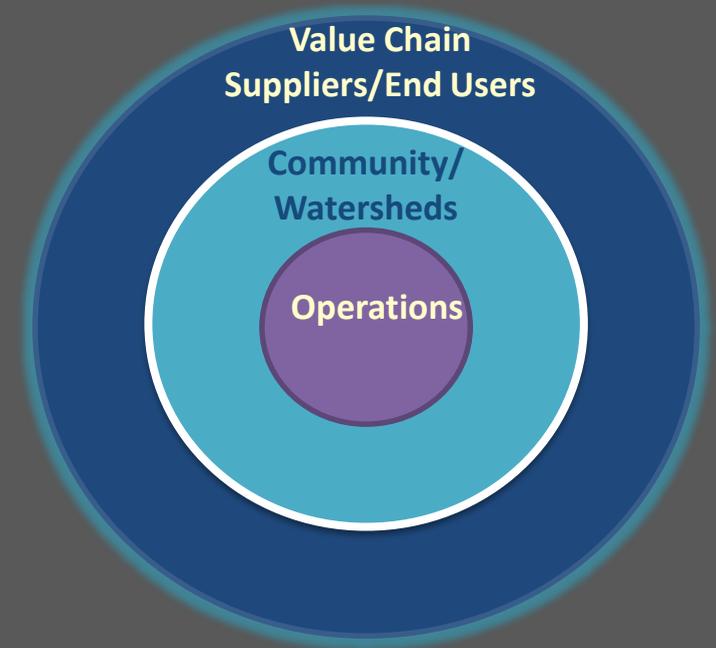
Water Stewardship – Beyond Efficiency



- Meet Regulations
- “Do no harm”
- Reduce operational water use
- Treat & reduce wastewater
- Measure water use and risks in operations & supply chain
- Mitigate water risks where needed
- Contribute to more sustainable management of shared resources

Case Study Examples

- PepsiCo
- The Coca-Cola Company
- Keurig Green Mountain
- MillerCoors
- Levi Strauss & Co





- Water efficiency in direct operations
- **Water conservation in agricultural supply chain**
- Integrated watershed management
- Partnering to provide safe water
- Public water advocacy and engagement



Direct seeding of rice can yield 30-35% water savings

The Coca-Cola Company

Assess the vulnerabilities of the water sources for each of our bottling plants and implement a locally relevant source water protection program

Replenish the water used in our finished beverages by participating in locally relevant projects... to produce a volumetric benefit equivalent to our global beverage production volume.



Other “Water Balance” Goals



Balance the water volume of our beverages through projects that restore an equal volume of water...(2020)



Replenish water used in final products in water stressed areas (2020)



Have a positive impact on water resources in water-scarce areas (2030)



Become water neutral regarding our use of fresh water in operations (2016)



Become water neutral (2044)



By 2020 we will engage 1 million people in our manufacturing and agriculture supply chains to significantly improve their livelihoods including water security and climate resilience.





- Continue to reduce our water-to-beer ratio to achieve an average ratio of 3:1
- Restore a volume of water equal to the final product volume from our breweries...
- Manage and reduce water risks in 100 percent of our key barley-growing regions



Photo credit: MillerCoors

Levi's
LEVI STRAUSS & CO



HOW WE SAVED ONE BILLION LITERS OF WATER

IT'S TIME TO COME CLEAN

THE GLOBAL WATER ISSUE

750 MILLION PEOPLE
lack access to clean H₂O.
That's almost 2.5 times the U.S. population.

Globally, around **1.1 BILLION PEOPLE** don't have access to safe drinking water.

By 2025, it is estimated that **TWO OUT OF THREE PEOPLE** will live in a water-stressed area.

H₂O CONSUMPTION IN THE LIFE OF A PAIR OF LEVI'S® 501® JEANS

3,781 LITERS = **3 DAYS**
OF HOUSEHOLD USE
IN THE U.S.

WASH LESS

On average, in the U.S., jeans are worn just twice before washing.

In the U.K. and France, jeans are worn nearly three times before washing.

In China, jeans are worn four times before washing.

WASHING JEANS AFTER 10 WEARS REDUCES WATER, ENERGY AND CLIMATE IMPACT BY

77%
in the U.S.

Annual H₂O needs for **1.3 MILLION PEOPLE**

Enough for the population of San Diego, Calif., U.S.

75%
in the U.K. and France

Annual H₂O needs for **429,000 PEOPLE**

Enough for the population of Nice, France

61%
in China

Annual H₂O needs for **20.4 MILLION PEOPLE**

Enough for the population of Beijing, China

Sources: Water.org; World Water Council; United Nations Environment Programme (UNEP); Levi Strauss & Co. Lifecycle Assessment Study

BCI Better Cotton Initiative

LOGIN Q EN MENU



Corporate Water Stewardship Tools



Water Footprinting

- Accounts for direct and indirect use
- Water volumes consumed and/or polluted
- Locations & timing of use (not just volumes)



Photo credit: WFN

Water Risk Assessment



Supply vs. Demand



Biodiversity

Erik Enbody



Drought Severity



Water Pollution

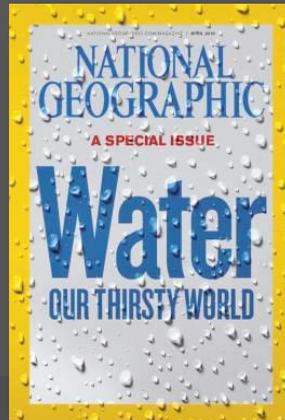


Governance



World Vision

Water Access



Media Coverage



AP

Flood Occurrence

WRI Aqueduct Water Risk Atlas

These maps show how climate change and/or development could affect water resources over the next 30 years.

Map Transparency

100% none

1. Select an indicator

Projected change in water stress

Projected change in seasonal variability

Projected change in water supply

Projected change in water demand

2. Select a time frame

- Change in water stress from historical conditions to: 2020
- from historical conditions to: 2020
- Water Stress In Year: 2020

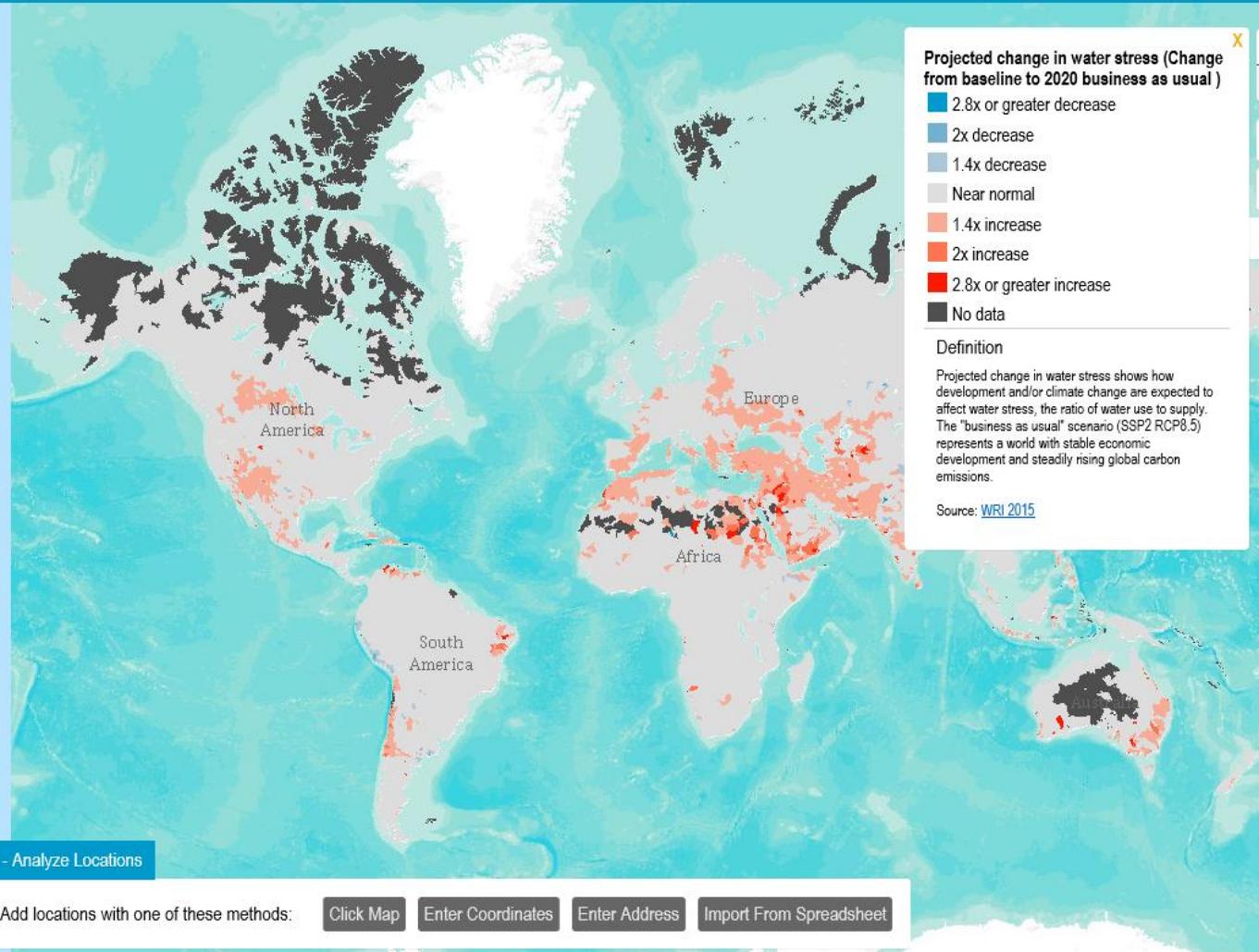
3. Select a climate scenario

Future water availability depends on how the world grows. These possible scenarios are based on the IPCC 5th assessment report.

Optimistic

Business as usual

Pessimistic



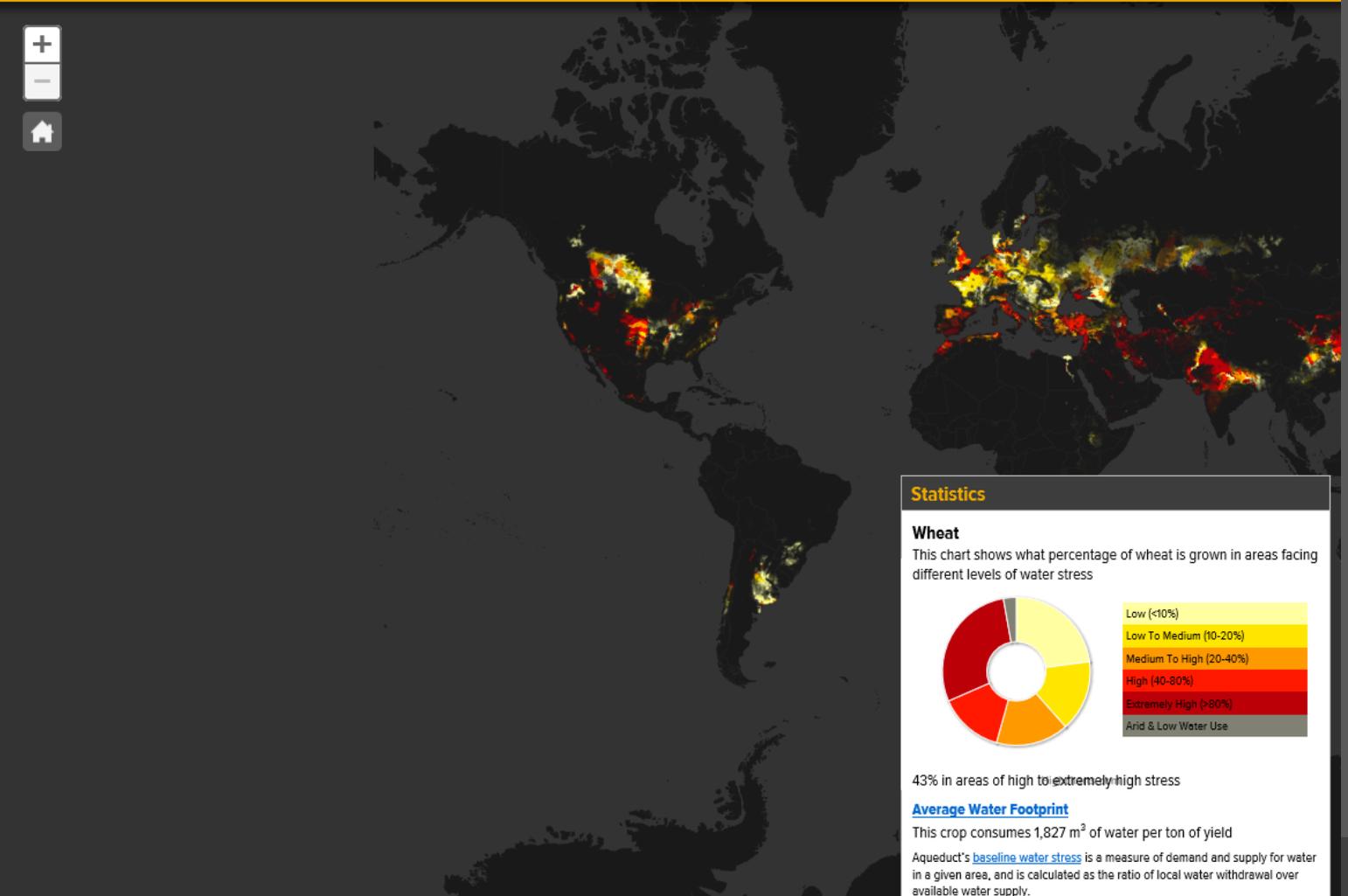
Agricultural Exposure to Water Stress

Agricultural exposure to water stress

Competition for and depletion of water in major agricultural areas

Water Risk Tool Download Share Sources

- Irrigated Agriculture
- All Cropland
- Major Commodity Crops
 - Cocoa
 - Coffee
 - Cotton
 - Maize
 - Oats
 - Oil Palm
 - Oranges
 - Canola
 - Rice
 - Rubber
 - Soybeans
 - Sugar Cane
 - Wheat**
- Crop Groups
 - Cereals
 - Fiber Crops
 - Fodder Crops
 - Fruits



Beverage Industry Collaboration

- Joint commitment on climate change:
 - Manage risks in supply chains
 - Reduce water footprint of agriculture
 - Conserve water in operations
- Supply chain collaborations (examples):
 - Bonsucro
 - Sustainable Agriculture Initiative

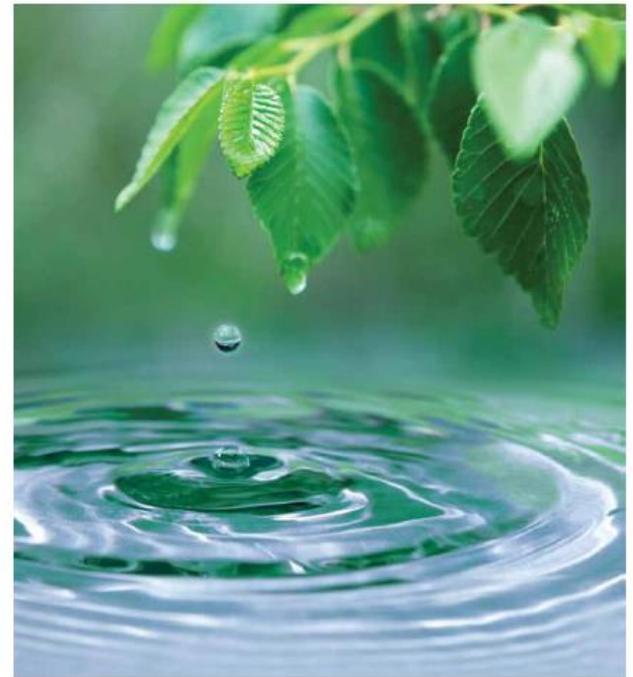


CEO Water Mandate

- Direct operations
- Supply chain watershed management
- Collective action
- Public policy
- Community engagement
- Transparency

THE CEO WATER MANDATE

An initiative by business leaders in partnership with the international community



The CEO Water Mandate



Water stewardship:

The use of water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site and catchment-based actions.

Good water stewards understand their own water use, catchment context and shared risk... and then engage in meaningful individual and collective actions...



The AWS International Water Stewardship Standard

Version 1.0
Date: April 8th, 2014

International Standard Development Committee (ISDC): Imane Abdel Al, Shahid Ahmad, Maureen Ballesterio, Sanjib Bezbaroa, Peter Cooney, Axel Dourojeanni, Carlo Galli, John Langford, Marco Mensink, Gerphas Opondo, Jiseon Matilda Park, Ed Pinero, Peter Ruffier, Lesha Witmer, Hao Xin
Former members: Ma Jun and Chaudry Riaz Khan

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81.1%

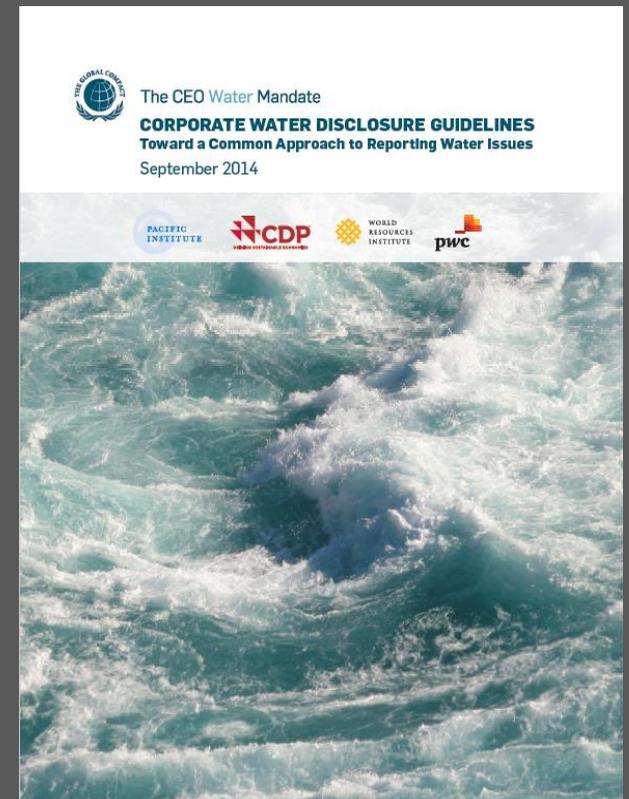


The Water Benefit Certificate Project Cycle



Transparency

- Many disclosure requests:
 - 10K financial filings
 - Sustainability Reports (GRI)
 - CDP Water Disclosure
 - Dow Jones Sustainability Index
- Many metrics:
 - Water performance
 - Water risk



<http://ceowatermandate.org/files/Disclosure2014.pdf>

Key Observations

- Response is highly variable
- Water competes with other environmental issues
- Risk is not always primary driver; some see opportunity
- Consumer messaging can be difficult
- Partnerships with other companies, NGOs & governments essential
- Engagement in water policy may be met with skepticism

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