BUSINESS GROWTH IN AN ERA OF WATER SCARCITY

A webinar by Trucost and Ecolab

FEBRUARY 12, 2015

SUBMITTING QUESTIONS

To submit a question:

Type in your question here

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Where will businesses grow?

The World's Cities

	Largest Population	Fastest Growing	Biggest Economies
1	Tokyo	Dhaka	Tokyo
2	Delhi	Beijing	New York City
3	Seoul	Delhi	Los Angeles
4	Shanghai	Karachi	Seoul
5	Mumbai	Shanghai	London
6	Mexico City	Calcutta / Kolkata	Paris
7	São Paulo	Mumbai	Osaka/Kobe
8	Beijing	Manila	Chicago
9	Lagos	Mexico City	Moscow
10	Osaka	Los Angeles	Shanghai

Source: Trucost research based on Water Risk Monetizer data, Brookings Institute data (2014), PWC global cities rankings (2012)

High water scarcity or current drought

Today's Speakers

Emilio Tenuta
Vice President
Corporate Sustainability
Ecolab

James Salo, PhD
Senior Vice President, Research
North America
Trucost

Global leader in water, hygiene and energy technologies and services that protect people and vital resources.

ECOLAB®

Global leader in valuing natural capital and quantifying the the economic consequences of natural capital dependency.

TRUCOST

MACRO TRENDS

Population Growth

Diet Shifts

- More people: +50% by 2050. Most growth in emerging markets
- Diets move from grains to proteins in emerging markets
- Population growth plus diet shift means 75-100% more calories needed to feed the world

Water Shortage

Energy Demand

- Food production accounts for nearly 75% of water consumption
- Demand for energy requires more geographically and technically challenging sources, which are more difficult to reach and treat as well as more water intensive
- Water scarcity is expected to be a dominant issue, particularly in high growth emerging market economies

Aging Population

Increasing middle class globally

- Aging population in EMEA, Japan, and China will drive healthcare
- Meal prep away from home continues in emerging markets driving foodservice growth

Nature

Technology

- Evolution presents new food safety and infection challenges
- Science & technology enables broader set of product and process improvements

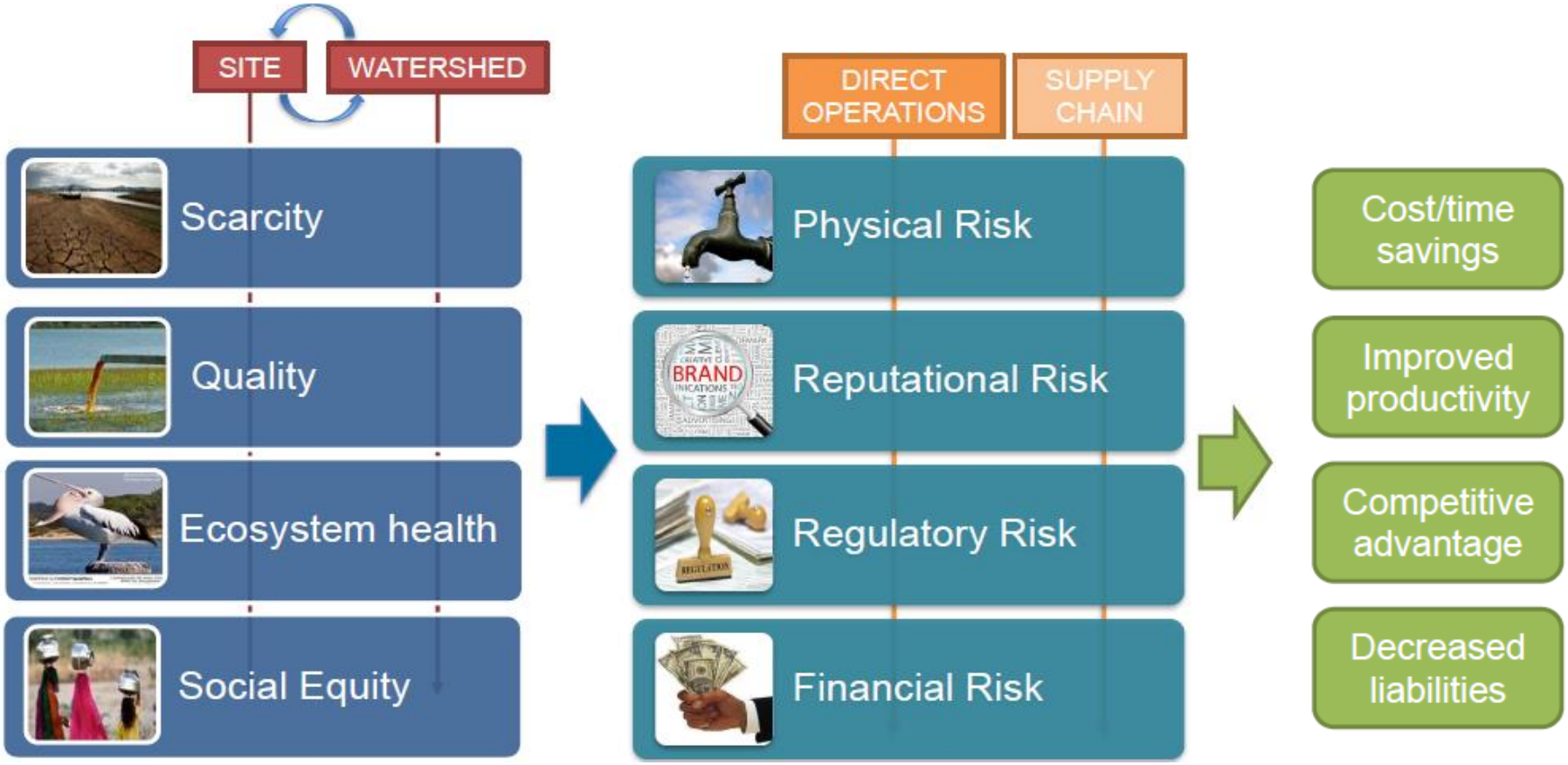
WATER SCARCITY: BUSINESS CHALLENGE

Water is necessary for the manufacture, delivery and use of virtually all products and services.

Increasing competition for a finite resource.

Water scarcity is an obstacle to growth.

WATERSHED CHALLENGES & BUSINESS RISKS



WATER CRISIS MAKING INTERNATIONAL HEADLINES

BUSINESS IMPACT OF WATER SCARCITY

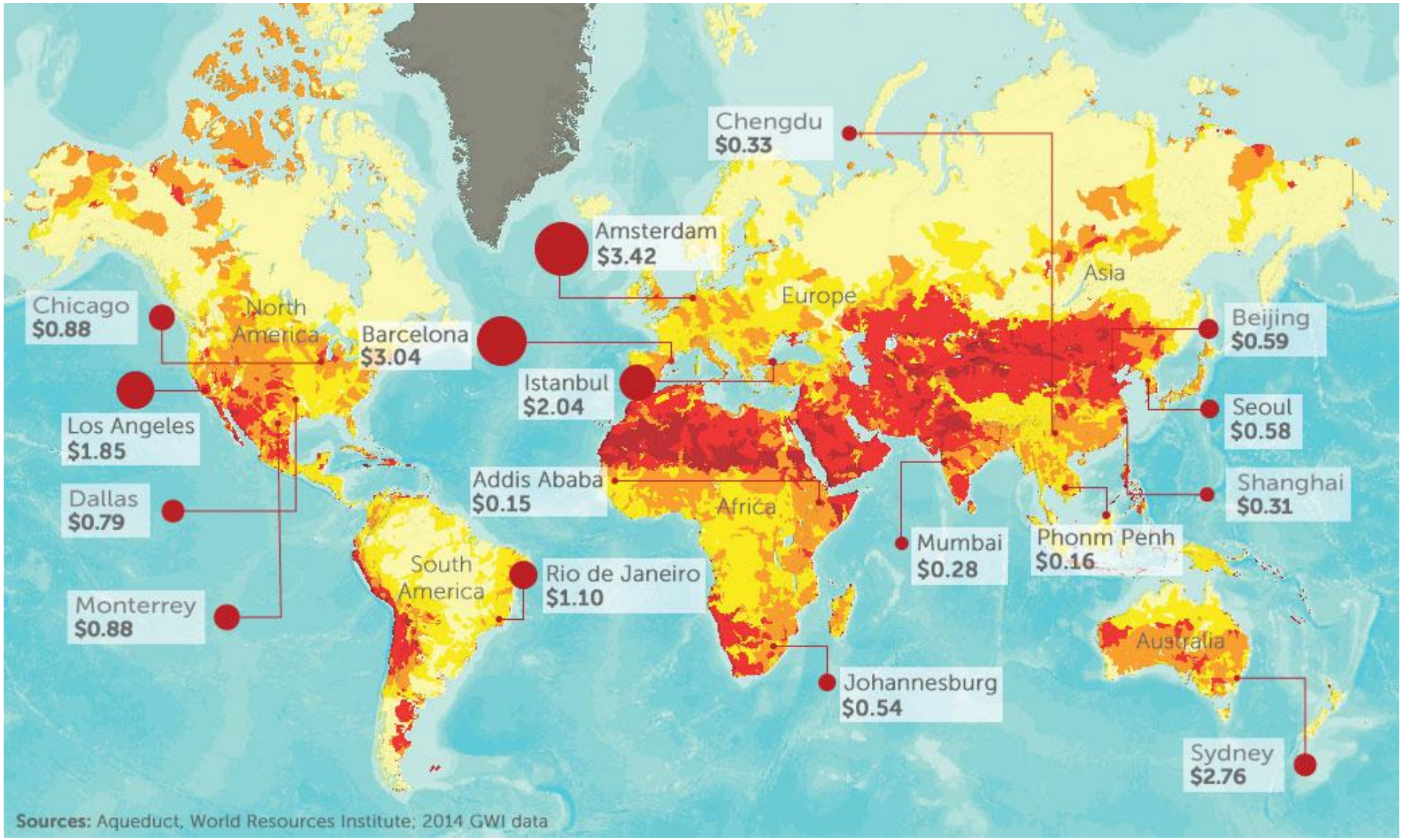
- Nearly **2 billion people** live where access to clean and safe water is increasingly limited
- By 2030, there will be a **40% gap between water supply and demand**
- In 2014, the global water crisis rose to a **top-three business risk** for impact and likelihood
- **70% of companies surveyed** identify water as a substantive business risk

US-based Fortune 500 companies:

- **94%** face potential physical challenges
- **69%** face reputational risks
- **80%** say it will affect their decisions on where to locate facilities
- **60%** indicate water will affect business growth and profitability within five years

SOURCES: World Economic Forum
2013 CDP Water Report
Bridging Concern with Action: Are US Companies Prepared for Looming Water Challenges?, Pacific Institute and VOX Global 2014 survey of US-based Fortune 500 companies

WATER PRICES INVERSE TO SCARCITY (RISK)



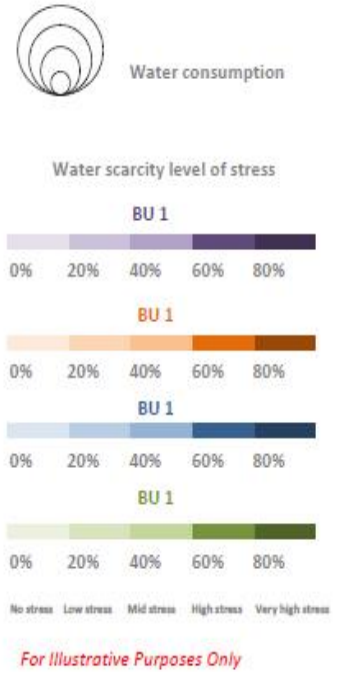
ASSIGNING A VALUE TO WATER

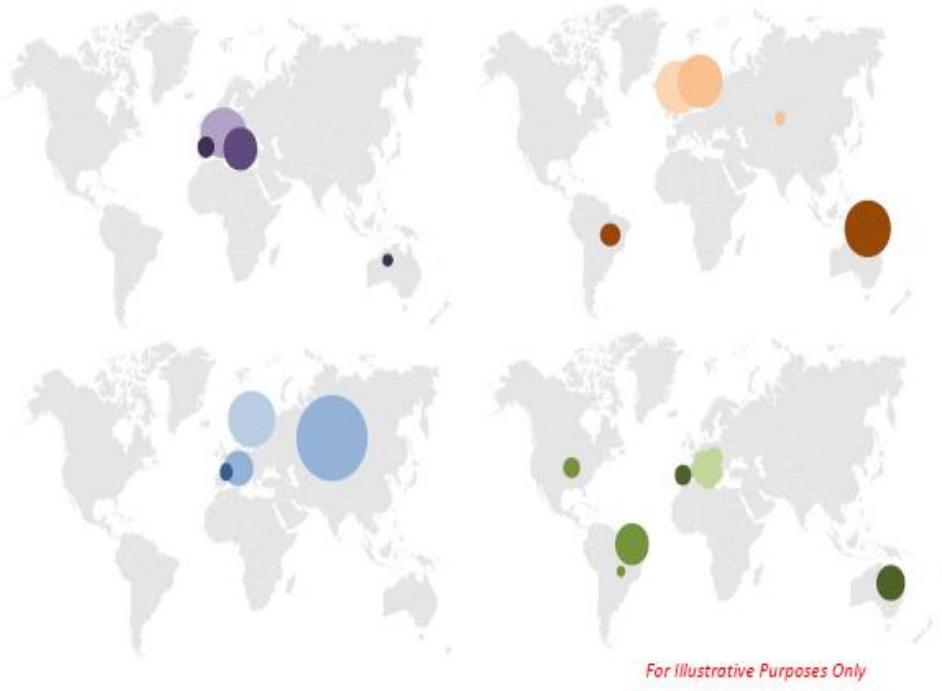
Progressive companies are:

- Recognizing that the water bill does not reflect the true value of water.
- Assigning values that reflect the real importance of water to their ability to do business
- Analogy: concept of valuing water similar to the cost of capital for an acquisition

Valuing Water: Examples

LVMH
MOËT HENNESSY • LOUIS VUITTON





Example Trucost clients including water assessment

natura
novo nordisk
Interface
MONSANTO
YorkshireWater
PUMA
GENERAL MILLS
VEOLIA WATER
L'ORÉAL
Yarra Valley Water

WATER RISK MONETIZER

A **financial modeling tool** that provides a new way for businesses to incorporate water risks into business decisions by helping businesses understand the full value of water to their operations.

First-of-its-kind | **Publicly available** | **No cost**

By **quantifying water-related risks in financial terms**, the tool bridges the gap between today's low market price for water and the water risks that affect businesses around the world.

The result is actionable information that **supports business growth** and helps ensure the **availability of this limited natural resource for future generations**.

WATER RISK MONETIZER

Financial information to inform business decisions:

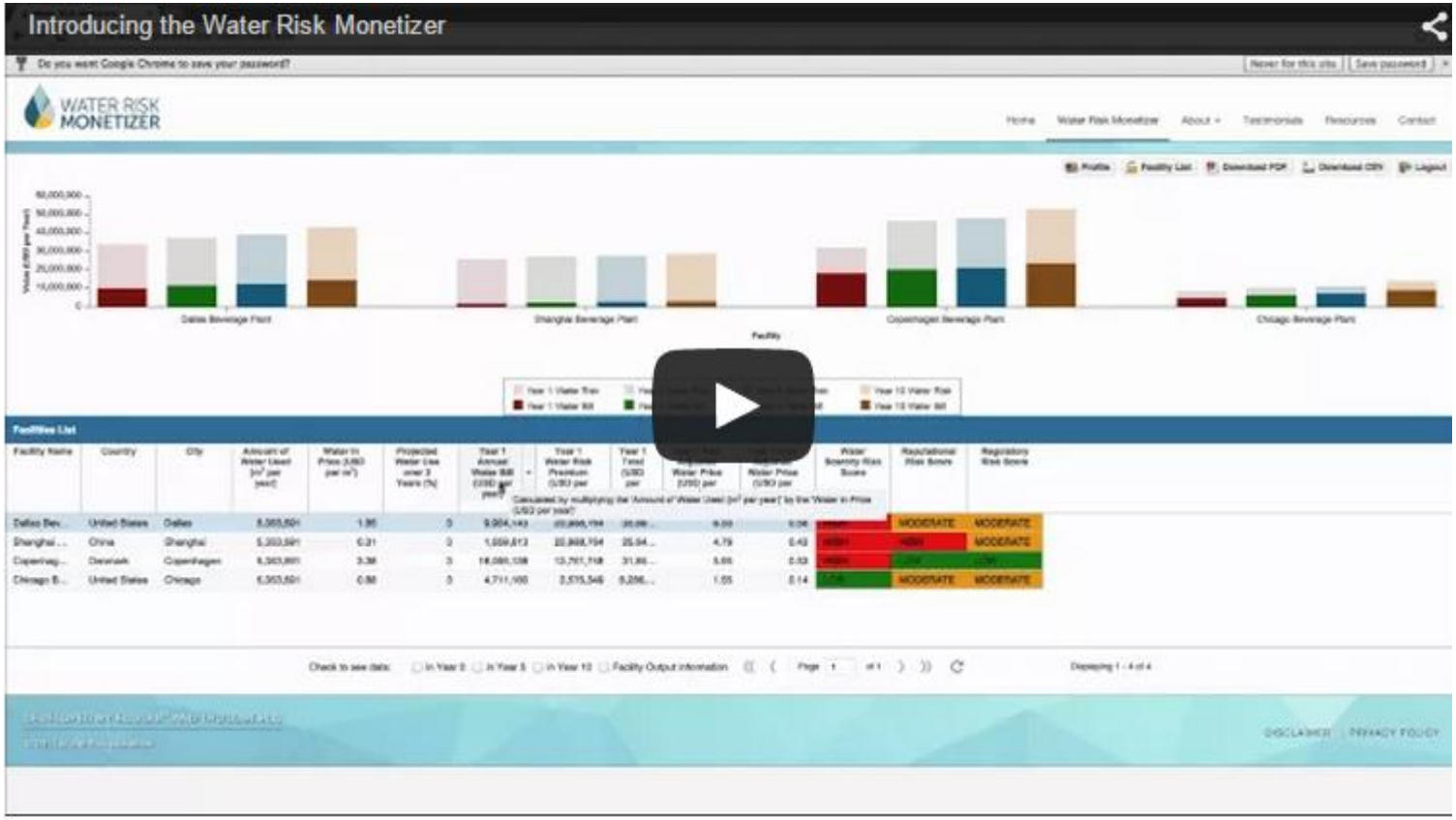
1. **Current and future water bill:** Forecasted water costs based on the historical relationship between country level GDP and water price.

2. **Water risk premium:** An estimate of the financial value of water if it were priced according to market principles of supply and demand at a particular location. The premium considers the risks associated with a facility's ability to access the water it needs from the local watershed and the implications of that water use on the community.

3. **Risk-adjusted water price:** Forecasted water bill plus water risk premium represents the value that should be placed on water based on real and future risk related to water scarcity.

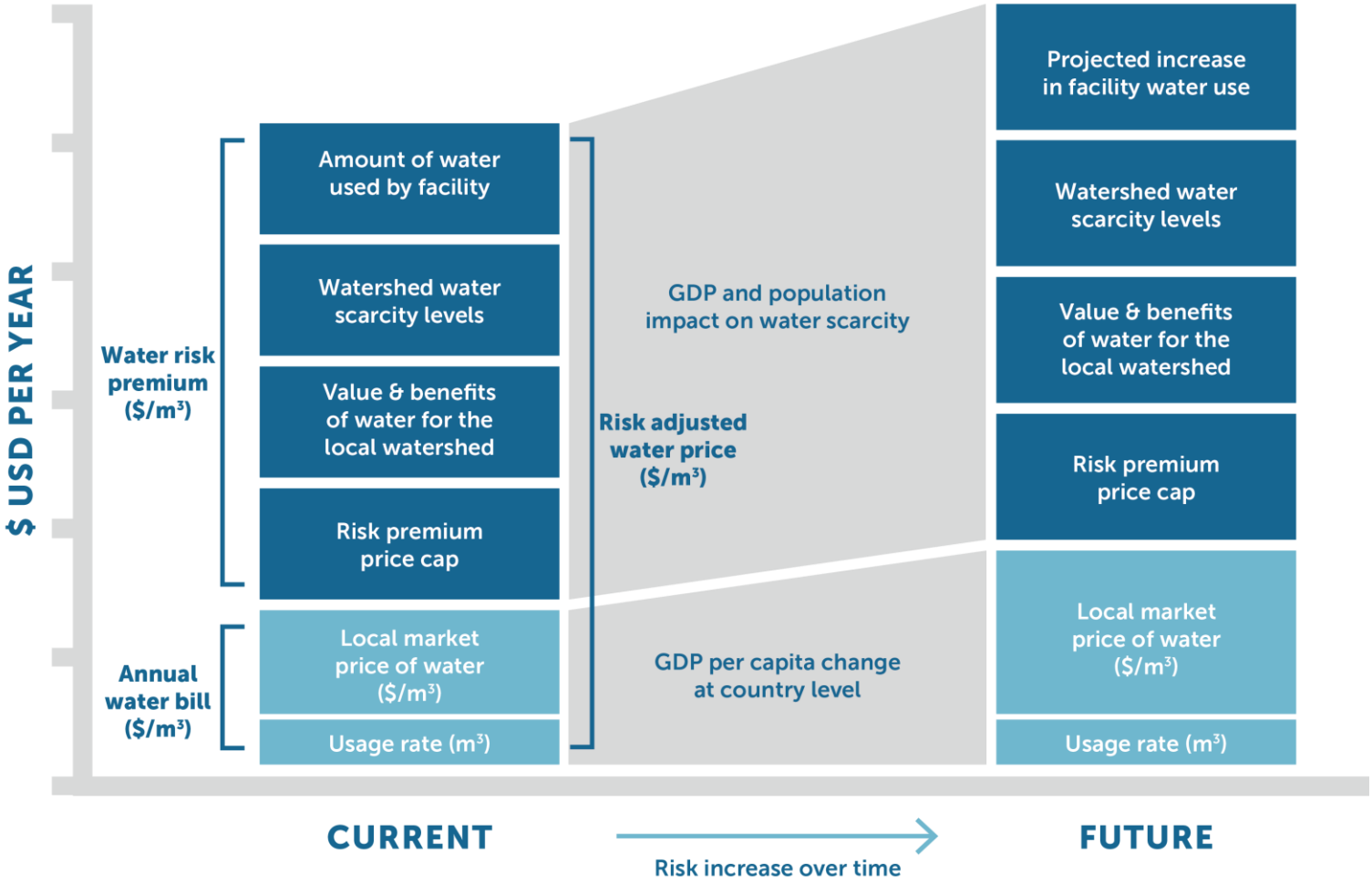
Making it easier to factor the potential cost or impact of water risks into business decisions in the same way other risks are considered in planning and capital allocation.

WATER RISK MONETIZER



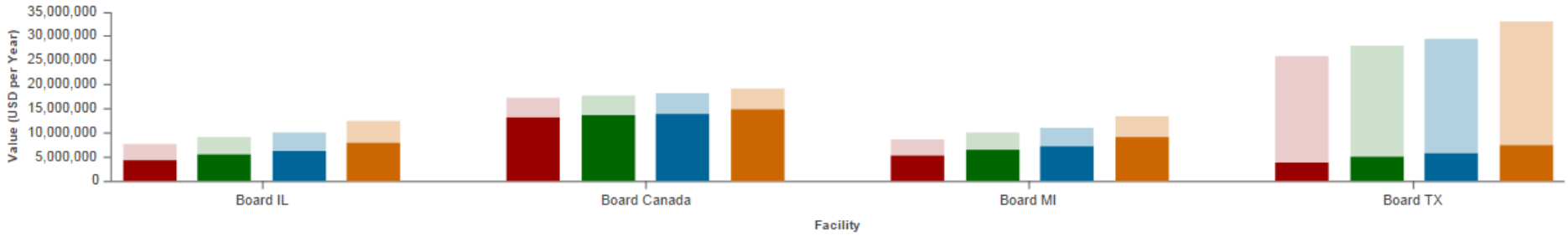
http://www.youtube.com/watch?v=WS6s4M5J_Pg&list=UUNJGBA584r6N6pmPZt_GwFQ

WATER RISK MONETIZER



WATER RISK MONETIZER

EXAMPLE:
PAPER BOARD MANUFACTURING



Facilities List

Facility Name	Country	City	Amount of Water Used (m^3 per year)	Water In Price (USD per m^3)	Projected Water Use over 3 Years (%)	Year 1 Annual Water Bill (USD per year)	Year 1 Water Risk Premium (USD per year)	Year 1 Total (USD per year)	Year 1 Risk Adjusted Water Price (USD per m^3)	Year 1 Risk Adjusted Water Price (USD per Facility Output)	Water Scarcity Risk Score	Reputational Risk Score	Regulatory Risk Score
Board IL	United States	Chicago	4,896,766	0.88	0	4,309,154	3,270,263	7,579...	1.55	23.80	LOW	MODERATE	MODERATE
Board Can...	Canada	Toronto	4,896,766	2.71	0	13,270,236	3,945,848	17,21...	3.52	54.06	LOW	MODERATE	LOW
Board MI	United States	Detroit	4,896,766	1.1	0	5,386,443	3,270,263	8,656...	1.77	27.18	LOW	MODERATE	MODERATE
Board TX	United States	Dallas	4,896,766	0.79	0	3,868,445	21,941,788	25,81...	5.27	81.05	HIGH	MODERATE	MODERATE

www.waterriskmonetizer.com

Many complementary tools

Frameworks & Questionnaires ⟷ **Tools with data**

Uses

- Identify issues potentially material to a business
- Provide a standard set of metrics for compiling water risk information
- Systematic approach to evaluation
- External disclosure of risks

Examples

Global Reporting Initiative™

The CEO Water Mandate

GEMI® Local Water Tool™

CDP
DRIVING SUSTAINABLE ECONOMIES

Uses

- Measuring and quantifying risks
- Providing strategic insights on managing water scarcity
- Prioritize investments
- Understand context of water use within a local basin

Examples

	Assess water scarcity risk	Requires facility data	Monetary Value of Risk
WATER RISK MONETIZER	●	●	●
AQUEDUCT Measuring and Mapping Water Risk	●		
THE WATER RISK FILTER	●	●	
Global Water tool	●	●	
Water Footprint Tool	●	●	

Many other features & functions!

Ease of use, other water risks, local site vs country scale, etc.

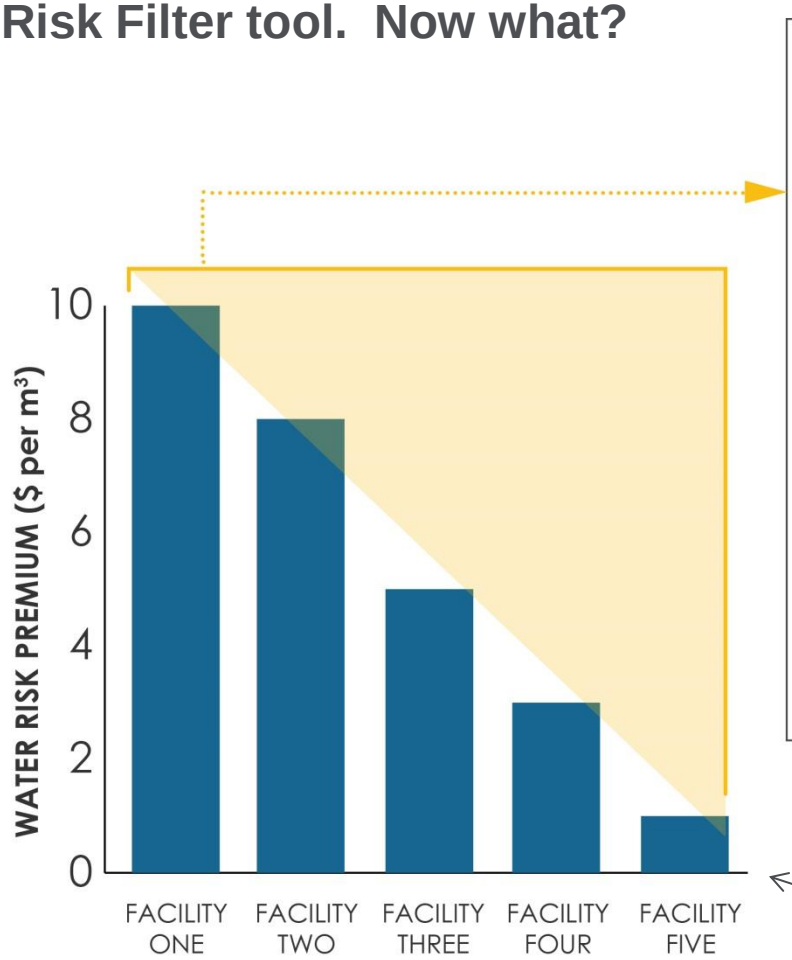
WATER RISK MONETIZER

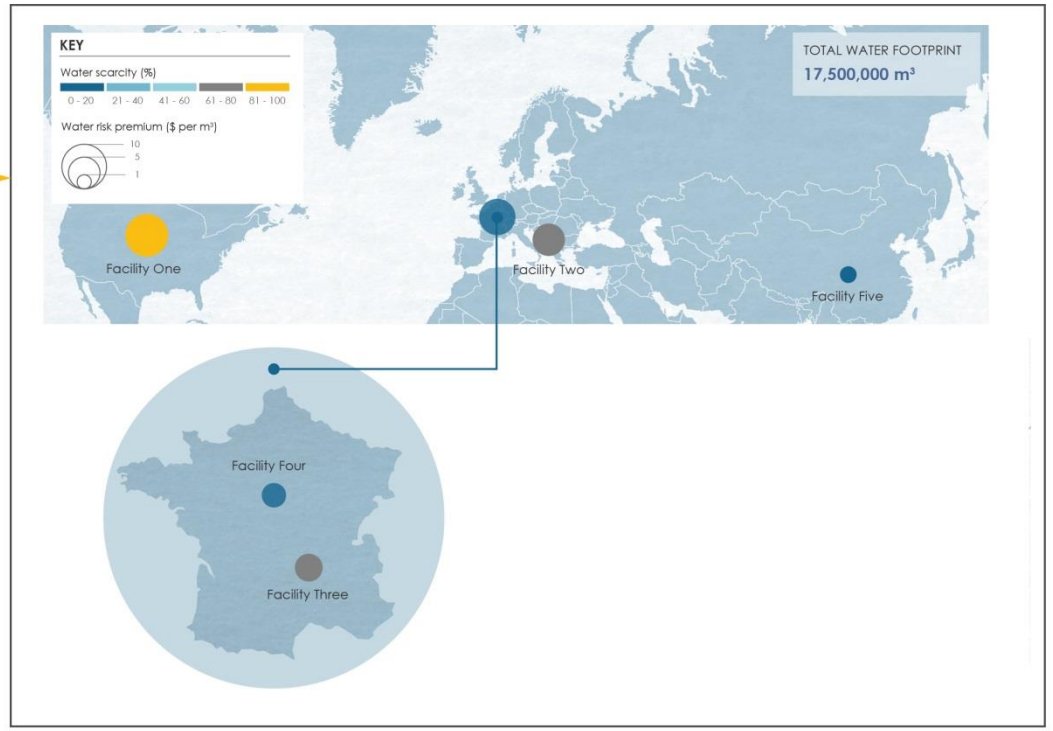
Businesses can use the Water Risk Monetizer to:

- **Incorporate** a risk-adjusted cost of water into a facility budget, financial projections, business scenarios, project proposals, etc.
- **Make the case** for proactive water management strategies (solutions, technologies, programs, etc.)
- **Identify** operations/locations at greatest risk
- **Monetize** rate of return for water management improvement projects
- **Select** where and how to increase production or meet demand in new regions

Example WRM Application

Five facilities were identified as "high risk" using the Aqueduct or WWF Water Risk Filter tool. Now what?



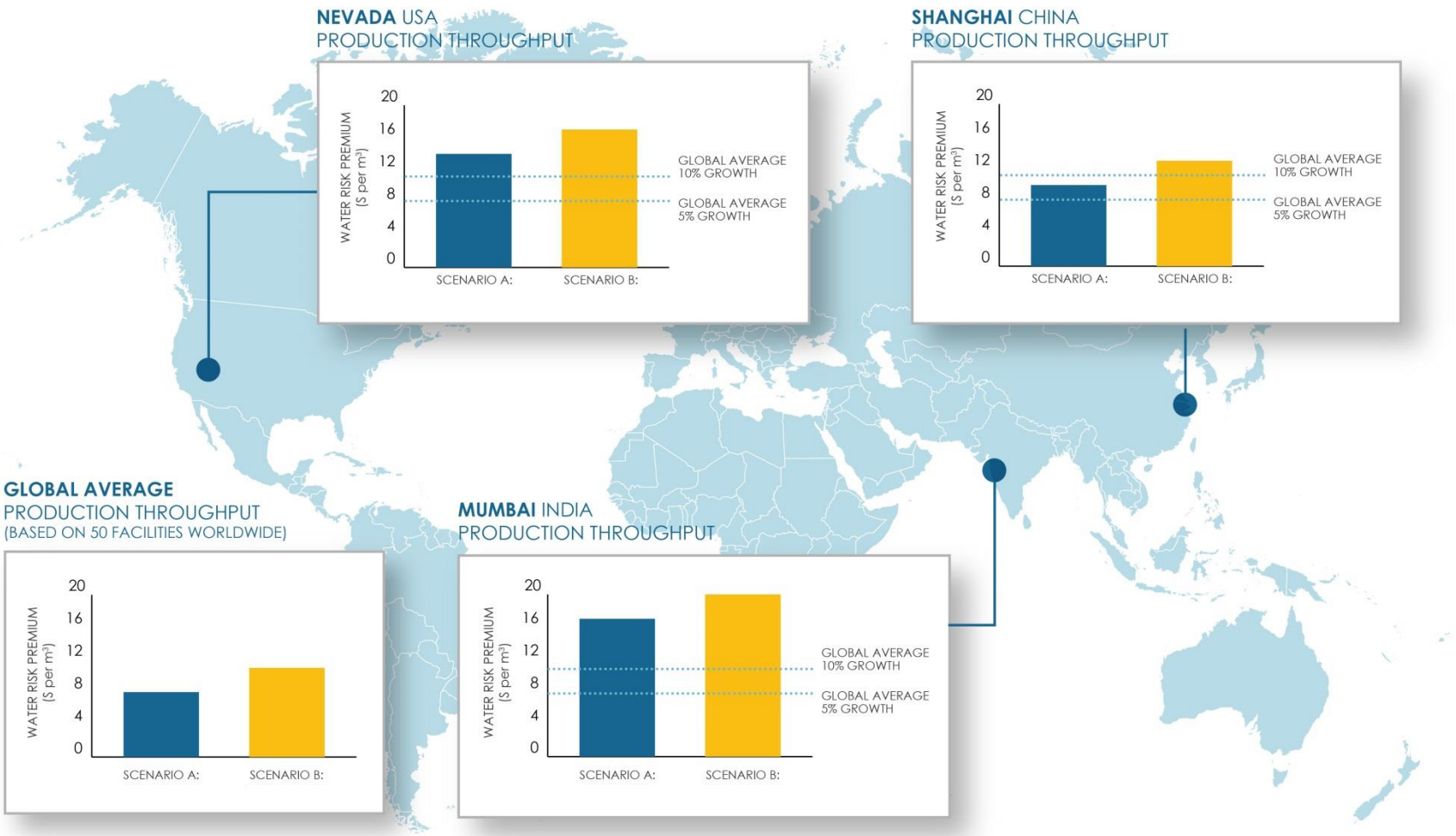


Water Risk Monetizer provides a water risk premium ($) to rank facilities by financial risk, and calculate the risk adjusted ROI of an investment in water conservation.

Sample results for illustrative purposes

Example WRM Application

Given growth scenarios A and B for our business facilities, what are the monetary water scarcity related risks at different locations?

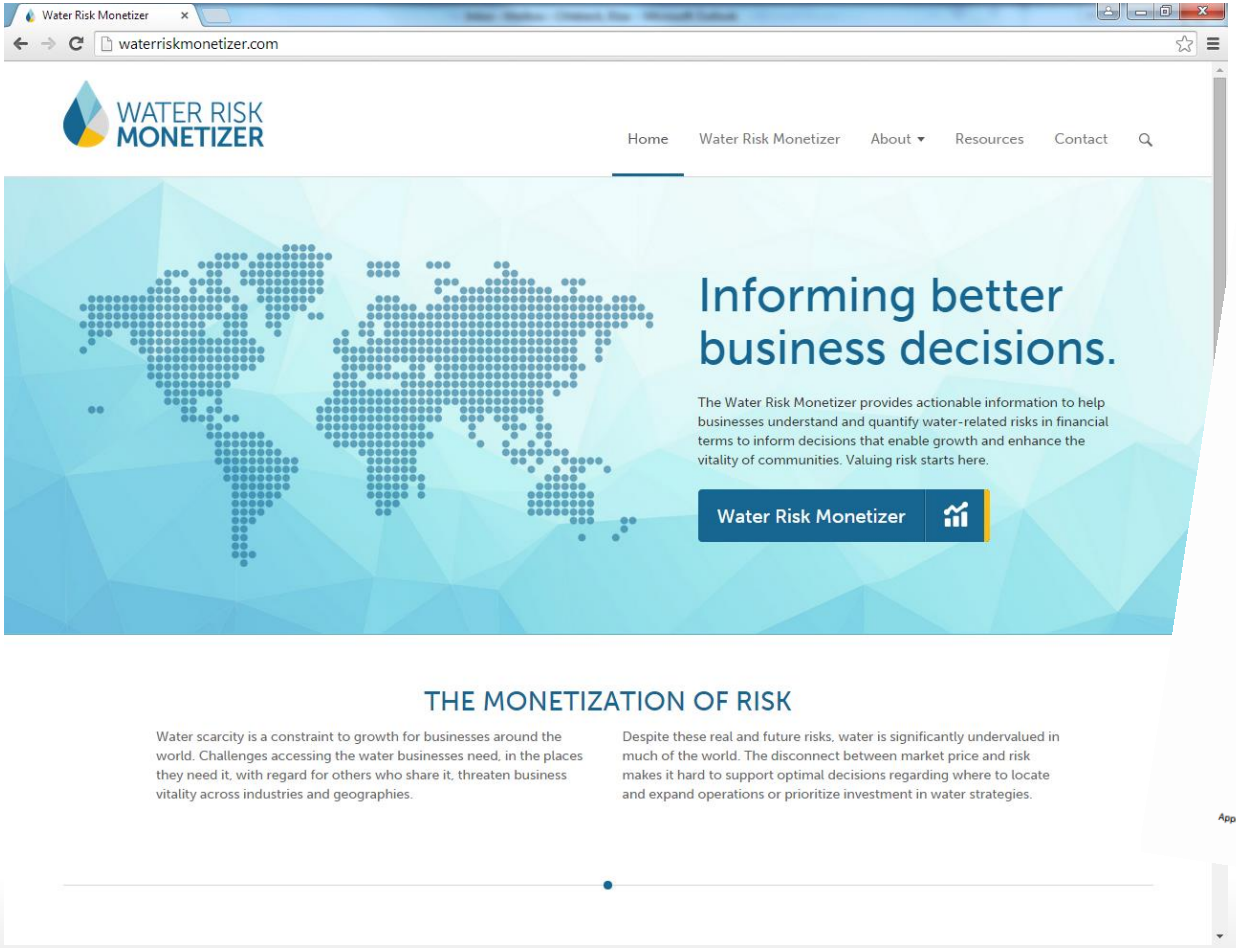


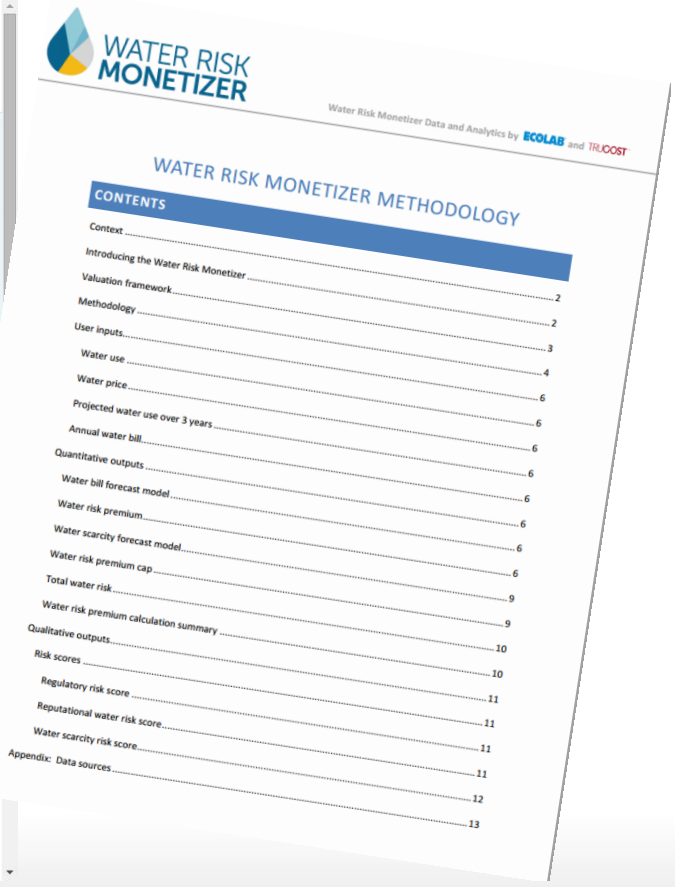
Sample results for illustrative purposes

WATER RISK MONETIZER

WATER RISK MONETIZER

WaterRiskMonetizer.com

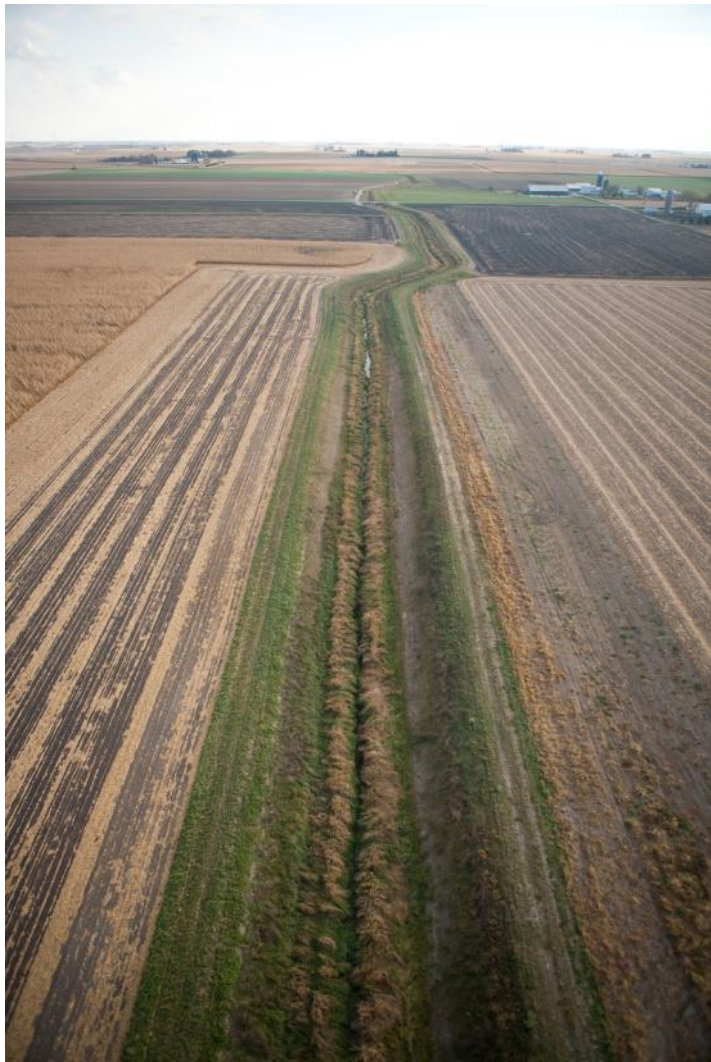




SHIFT FROM CONSERVATION TO STEWARDSHIP

"Water stewards understand their own water use, catchment context and **shared risk** in terms of water governance, water balance, water quality and important water-related areas; and then engage in meaningful **individual and collective actions** that benefit people and nature."

– Alliance for Water Stewardship (AWS)

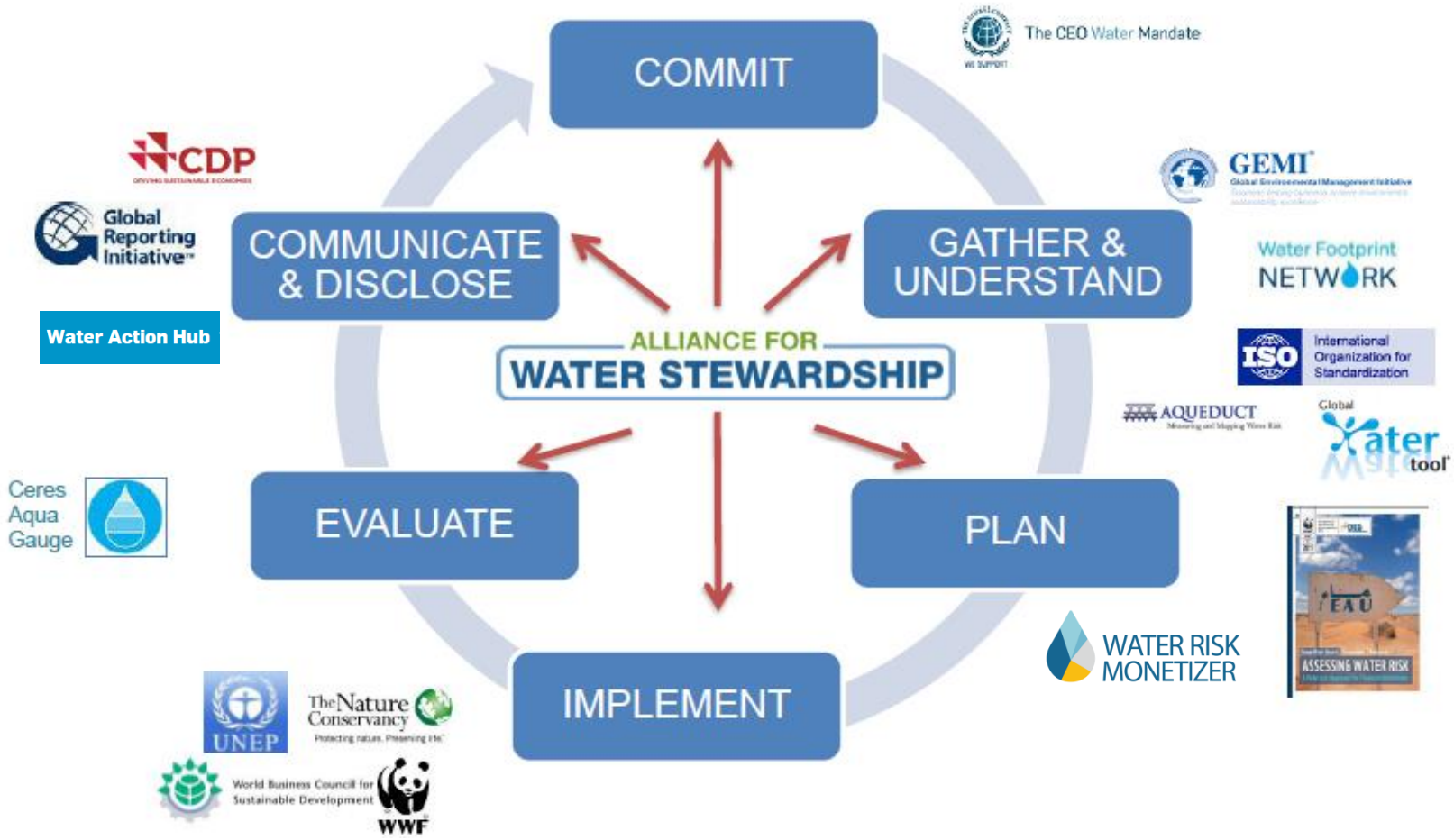


A GLOBAL STANDARD FOR STEWARDSHIP

The AWS Standard provides a global framework to:

- Mitigate water risks,
- Address shared water challenges in the catchment
- Ensure responsible water stewardship actions are in place to minimize negative impacts and maximize positive impacts for everyone.

AWS 6-STEP FRAMEWORK



WATER RISK MONETIZER

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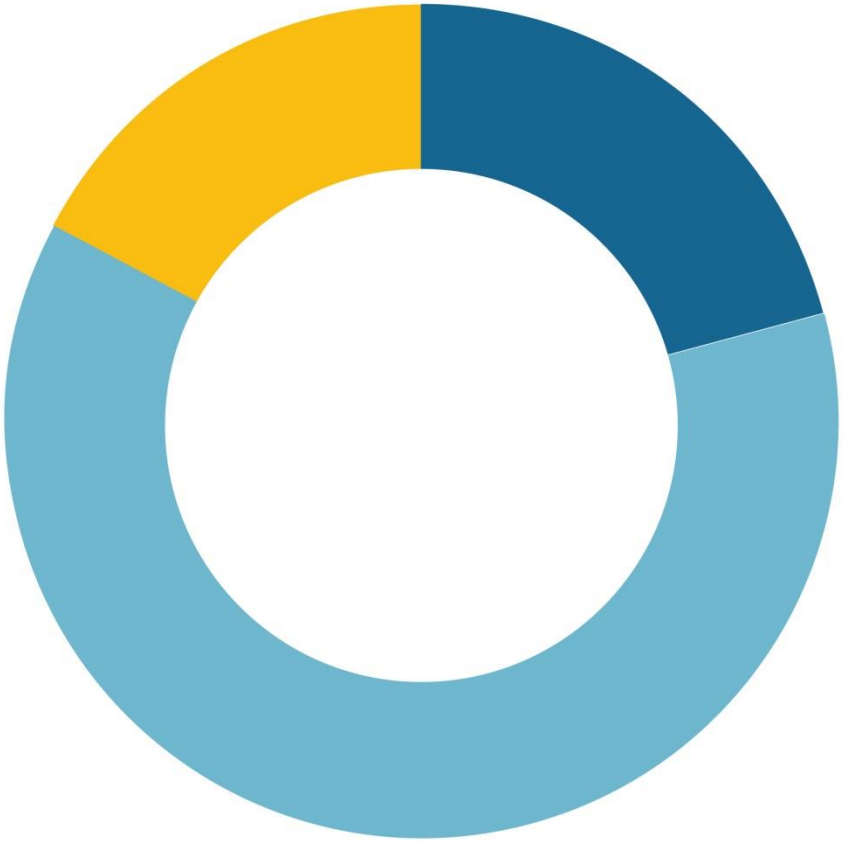
Questions

Thank you!

Survey Results

Q1. Has your business quantified its water use?



21%
No

62%
Yes: Direct operations

17%
Yes: Direct operations & supply chain

Q2. Do you know which of your facilities or suppliers are in water scarce regions?

21%
No: Not evaluated

62%
Yes: Know for direct operations only

17%
Yes: Know for direct operations & key suppliers

Q3. What are your challenges in making the business case to act on water scarcity?

17%
Competing priorities

16%
Lack of information on how water is business risk

23%
Price of water too low to justify an investment

18%
Water risks much lower than other business risks

25%
Other

Q4. Does your company have water reduction or management goals?

23%
No

38%
Yes: Water reduction goals

14%
Yes: Water management goals

25%
Yes: Water management & water reduction goals