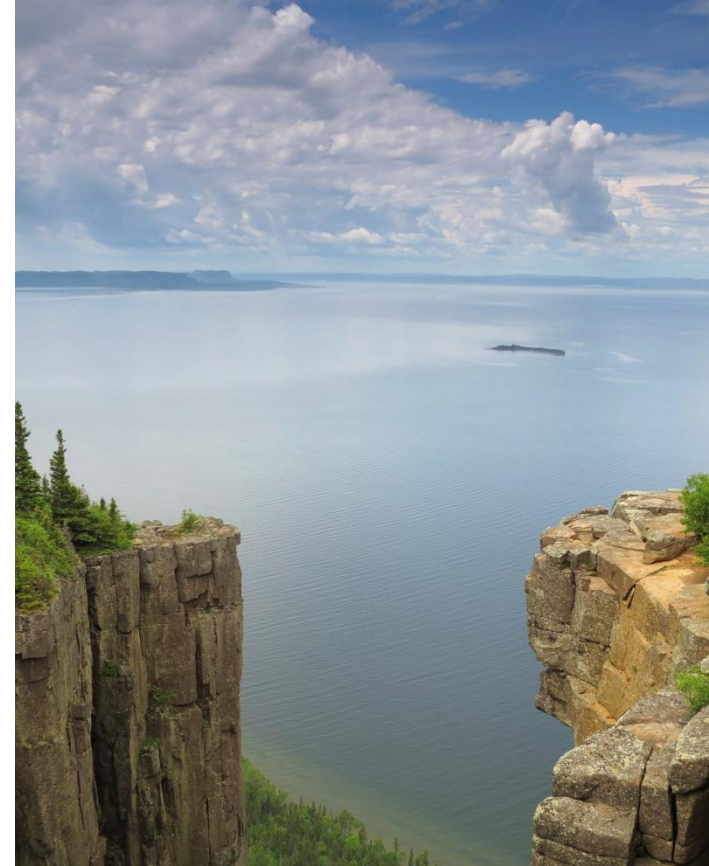


# WATER TECHNOLOGY: AN EMERGING CLUSTER IN THE MIDWEST?

DOUG BAKER  
CHAIRMAN AND CEO, ECOLAB

September 30, 2014



# 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 CRISIS MAKING INTERNATIONAL HEADLINES

**The Washington Post**

**Southwest braces as Lake Mead water levels drop**

**FINANCIAL TIMES**

**Nestlé warns water scarcity 'more urgent' than climate change**

**FINANCIAL TIMES**

**Water shortage shuts Coca-Cola plant in India**



**If You Think the Water Crisis Can't Get Worse, Wait Until the Aquifers Are Drained**

**Forbes**

**THIRSTY FOR INVESTMENTS IN WATER**

**HOUSTON CHRONICLE**

**Water woes force big brewers to tighten the tap**

**Bloomberg**

**Sao Paulo Told to Cut Water or Risk Running Out in 100 Days**

**Bangalore Mirror**

**MAJOR WATER SCARCITY TREAT LOOMS OVER INDIA**

**THE WALL STREET JOURNAL**

**California Drought Squeezes Wells State Considers Regulating Groundwater Use for First Time**



# BY 2030...

The world will need:

- ▲ 30% more water
- ▲ 40% more energy
- ▲ 50% more food



The global water industry is estimated at \$483 billion and growing several percentage points a year, according to Global Water Intelligence.

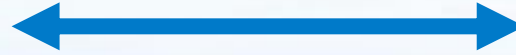
# FOOD-ENERGY-WATER NEXUS



**ENERGY**



**FOOD**



**WATER**





**“THERE IS NO NEW WATER.  
ALL WE HAVE IS HERE.”**

*- National Geographic*

# US COMPANIES FACE INCREASING WATER-RELATED RISKS

- ▲ 94% face potential physical challenges
- ▲ 69% face reputational risks
- ▲ 58% face regulatory 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

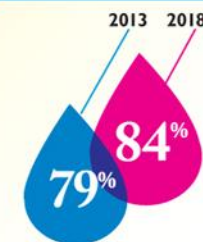
## LOOMING WATER CHALLENGES

*The growing concerns of top US companies by the numbers*

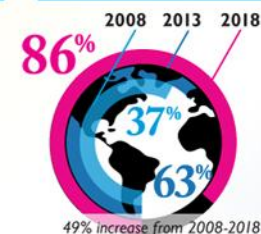
**94%** of companies surveyed\* face potential physical challenges related to water. An additional 69% face reputational risks, 58% face regulatory risks, and 33% face legal risks.



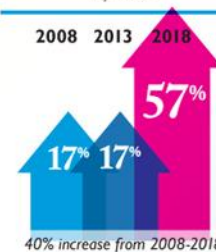
84% of companies believe they will face water-related challenges by 2018.



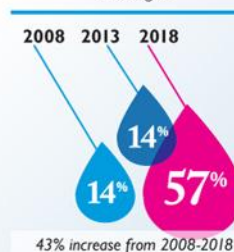
Companies report that water increasingly factors into where they choose to locate.



57% of companies expect water issues to be a factor in their growth by 2018.



Companies see increasing risk to profitability due to water-related challenges.



\*These statistics result from research conducted by VOX Global and Pacific Institute. Read the study in full and view the list of participating companies at [voxglobal.com/managing-water-risk-study](http://voxglobal.com/managing-water-risk-study).



**NALCO**

+

=

**ECOLAB<sup>®</sup>**



**Champion  
Technologies**



# ECOLAB: UNIQUELY POSITIONED TO DELIVER WHAT MATTERS MOST



CLEAN  
WATER



SAFE  
FOOD



ABUNDANT  
ENERGY



HEALTHY  
ENVIRONMENTS

We make the world cleaner, safer and healthier  
Protecting people and vital resources.

# PEOPLE, SERVICE & INNOVATION

**\$13 BILLION ANNUAL SALES**

**45,000**  
ASSOCIATES

**25,000**  
LARGEST & BEST TRAINED  
FIELD TEAM

SERVING MORE THAN 1 MILLION CUSTOMER  
LOCATIONS IN 171 COUNTRIES

**1,600 Scientists**

**6,300 Patents**

# ECOLAB MODEL DRIVES INSIGHTS

Healthcare/  
Infection  
Prevention



Foodservice/  
Hospitality



Food &  
Beverage  
Processing



Industrial  
Water Services



Energy  
Services



Shared Operating Principles

Shared Technology

Shared Model

# GLOBAL TECHNICAL REACH



● Global Research Centers

● Regional Technical Centers

# SERVING THE WORLD'S MOST WATER INTENSIVE INDUSTRIES



# GLOBAL CUSTOMERS: FOOD SERVICE, HOSPITALITY AND F&B



Sysco



Walmart  
Save money. Live better.

sodexo

Marriott

HYATT

ConAgra Foods  
Food you love

COMPASS  
GROUP



starwood  
Hotels and Resorts



Heineken



FOUR SEASONS  
Hotels and Resorts

General Mills

SUNTORY

baskinBRobbins



Hormel

Radisson



Cargill

Coca-Cola

ARAMARK

# GLOBAL CUSTOMERS: ENERGY, POWER AND INDUSTRY



Schlumberger



ConocoPhillips



INTERNATIONAL PAPER



PETROBRAS



HALLIBURTON



# COMPANIES ARE OPTIMIZING WATER NOW



By 2020, safely return to communities and nature an amount of water equal to what is used in finished beverages and their production.



Goal to reduce water consumption per guest night by 20% by 2015



15% improvement in water use by 2015 as compared to 2011



Cut total water intake by 50% and reduce total waste by 50% (adjusted for growth)



Aims to reduce direct water withdrawal per ton of product by 40% by 2015, compared to 2005 baseline.



20% reduction in fresh water use by 2015, compared with 2006



2015 goal to improve freshwater efficiency by 5%



2020 targets for reducing its water intensity by 20%



Further reduce water consumption 20 percent per occupied room by 2020 from a 2008 baseline



Intends to cut water use per pound of product by 15% by 2015, compared to a 2008 baseline.



Committed to “zero-discharge” operations as a critical part of a long-term target to build a resource-saving and no-emission management enterprise



Water-use-per-vehicle reduction goal of 30% from 2009 to 2015



# OUR GLOBAL WATER IMPACT

OPTIMIZING WATER EFFICIENCY THROUGH  
OUR UNIQUE SOLUTIONS

The ECOLAB logo is displayed in white text on a blue circular background. The logo consists of the word "ECOLAB" in a bold, sans-serif font, with a stylized starburst icon integrated into the letter "O".

**ECOLAB**

Touched More  
than 7 Trillion  
Liters of Water  
in 2013

**UP TO 90%** of water used by a typical five-line beverage, brewing or food processing plant using **DryExx<sup>®</sup> dry conveyor lubricant**.

**UP TO 50%** of water use by restaurant customers with our **Apex<sup>™</sup> conveyor dish machine**.

**UP TO 40%** of a typical customer's water consumption through the innovative wash processes of our **Aquanomic<sup>™</sup> laundry system**.

**UP TO 30%** of water use by open recirculating cooling system through **3D TRASAR<sup>®</sup> cooling water technology**



Ecolab solutions saved Hyatt significant amounts of water in 2012:



**3D TRASAR®** Cooling Management System saved 45 million gallons of water

**Formula 1™** Innovation, with fewer wash formula steps, saved 24 million gallons of water

Up to 40% reduction in water consumption through the innovative wash processes of **Aquanomic™** laundry system.

**TOTAL 2012 Water Savings:**



73 million gallons in laundry and water cooling applications





A range of innovative solutions to help PepsiCo increase its operational water use efficiency.



**IMAGINE THE IMPACT** The savings captured by our solutions add up:

**DryExx<sup>®</sup>**  
dry conveyor lubricant

More than

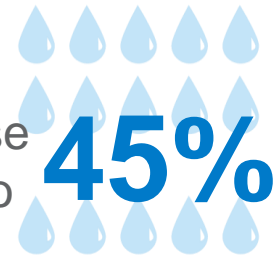


million gallons of water is saved in conveyor lubrication annually at bottling plants.

**Advantis<sup>®</sup>**  
clean-in-place program

Clean-in-place water use can be reduced by up to

**45%**



**3D TRASAR<sup>®</sup>**  
cooling water technology

Fresh water use was reduced by



**24 million gallons /year** at one PepsiCo plant.

**ECOLAB<sup>®</sup>**



Ecolab solutions saves Dow Freeport significant water in its operations.



In **1 year** at **1 plant**, enough water saved to sustain the population of Freeport, Texas for **3 years**

**1 billion**  
**gallons** and  
**\$4 million**

A decorative graphic of several blue water droplets of varying sizes arranged around the text.

Enough water for the daily use of more than **14.4 million people**.\*



\*Based on average daily water use estimated by the American Water Works Association.

# PROGRESS...BUT NOT ENOUGH, AND NOT FAST ENOUGH



# BIG BANG CATALYST



**Regulation**

**Market Pricing**

**DRIVE INNOVATION**

**DRIVE CONSERVATION**

# ASSIGN 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: valuing water as we value the cost of capital for an acquisition



# WATER CLUSTER COMPONENTS



GOVERNMENT  
INCENTIVES



RESEARCH-FUELED  
INNOVATION



TALENT  
RECRUITMENT



# GOVERNMENT AND ACADEMIC INVOLVEMENT IS KEY

Cincinnati, OH/Southwest Ohio/Northern Kentucky/Southeast Indiana

- Annual **water symposium** brings together leaders from the water industry, government, and universities

Northeast Ohio

- Connects with government leaders to raise the visibility of Northeast Ohio's technology assets, **position the region as an innovation hub**

Milwaukee, WI

- More than **100 academic scientists** and researchers focused on water solutions throughout Milwaukee and the surrounding area

Michigan

- Nearly every major university involved, along with **the governor's office, the Michigan Department of Environmental Quality and the Michigan Department of Agriculture**

# MINNESOTA WATER CLUSTER



# The Virtuous Cycle



Growth



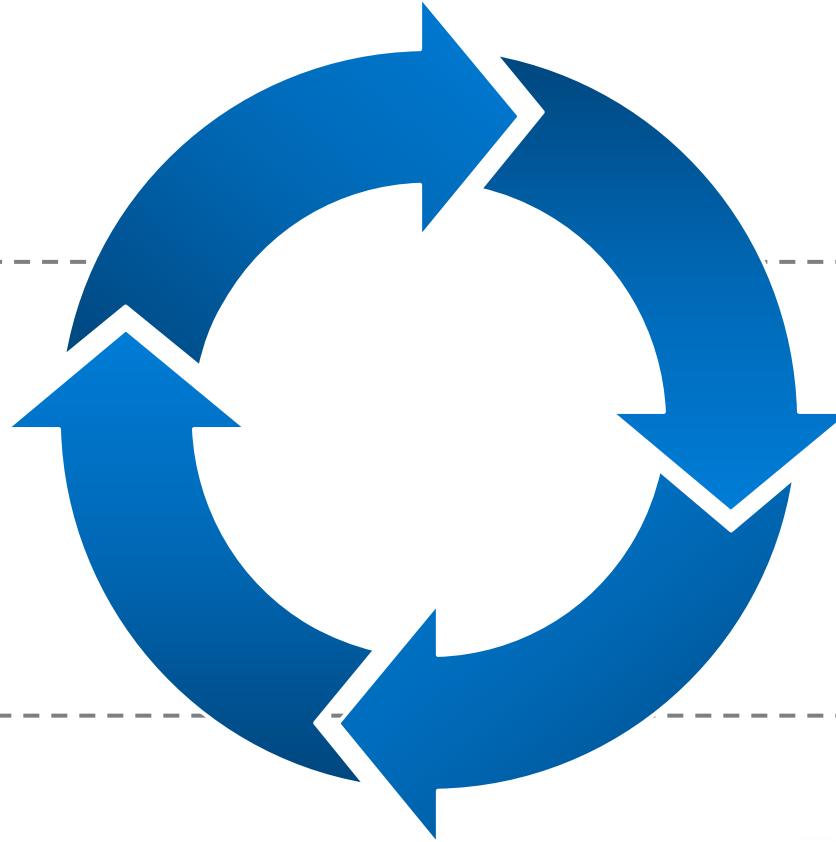
Talent



R&D



Commercial  
Know-How



# MINNESOTA WATER CLUSTER



GOVERNMENT  
INCENTIVES



TALENT  
RECRUITMENT

RESEARCH FUELED  
INNOVATION

# QUESTIONS & COMMENTS

**ECOLAB®**

The logo for ECOLAB is displayed in a bold, blue, sans-serif font. The letter 'O' is replaced by a blue circle containing a white starburst or sunburst icon with eight points. A registered trademark symbol (®) is located to the upper right of the letter 'B'. The background of the slide features a light blue grid pattern that curves upwards from the bottom right corner.