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MEDIA PLANET

WATER MANAGEMENT

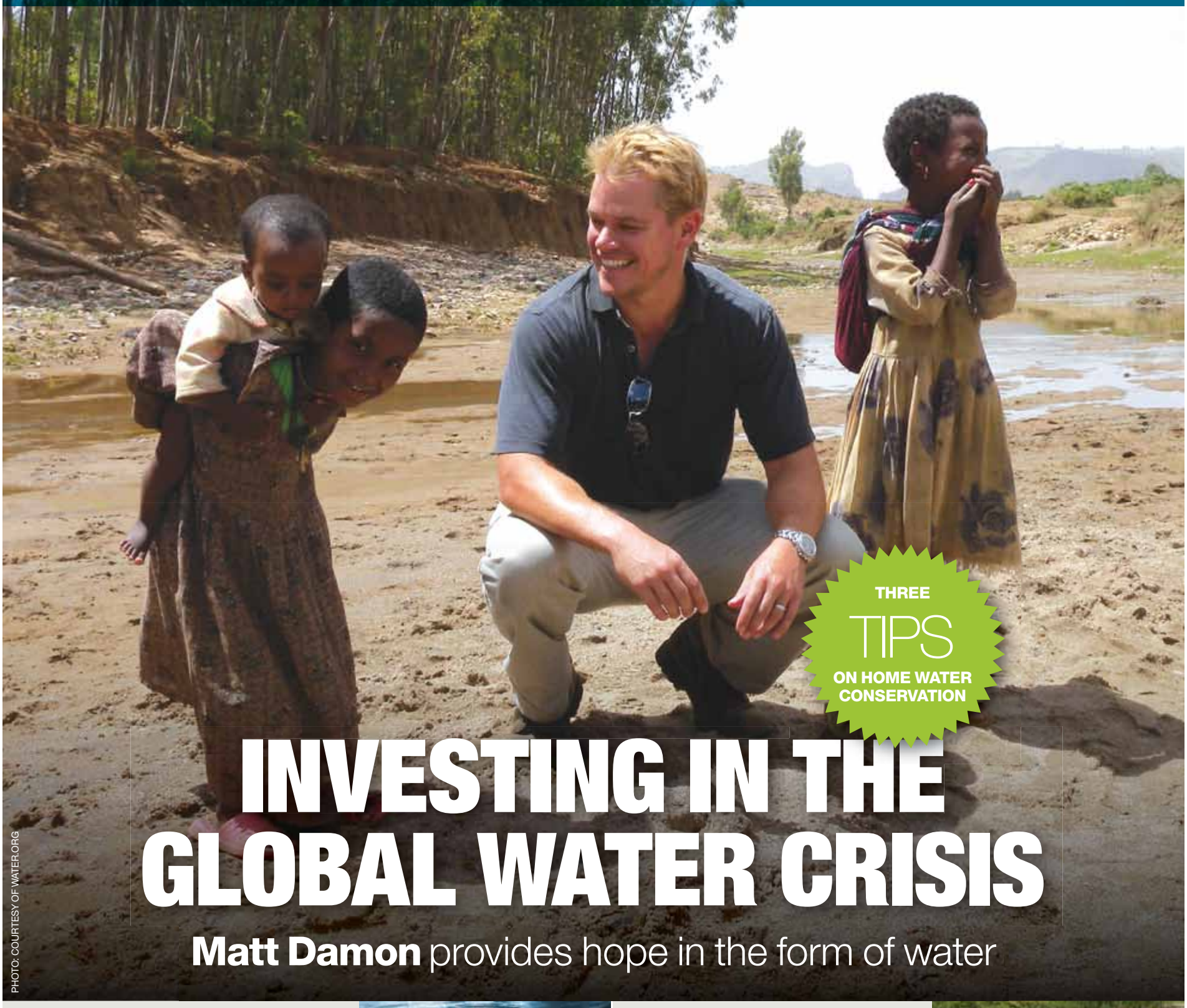

PHOTO: COURTESY OF WATER.ORG

THREE TIPS ON HOME WATER CONSERVATION

INVESTING IN THE GLOBAL WATER CRISIS

Matt Damon provides hope in the form of water

Ripple effect

What major corporations can contribute to the water crisis

Sustainable solutions

Changing how water permeates our everyday lives

CHALLENGES

Together we can make global access to clean water a reality, but **we each have an integral role to play.**

TIP 1

CHECK FAUCETS AND PIPES FOR LEAKS

A crisis we can end

The water crisis has many angles—water conservation, water rights conflicts, environmental impact, the list goes on and on. But in my view, the most urgent of all is this: today, one in eight people on earth lack access to safe drinking water. It's not an issue of scarcity, but of access.

Right now, around the world many thousands of people—mostly women and children—are spending hours of their day trying to secure enough water for their families to survive another day. Imagine walking more than three miles to collect water from a river when 30 meters below your feet, plenty of clean safe water is available, you just can't afford to drill the well to get it.

The economic, health and human development impacts of this crisis are staggering.

Deficits in water and sanitation are the leading cause of disease and death in the world, claiming the life of a child every 20 seconds. Collecting water prevents women from working and children from attending school. Without access to water, a huge segment of humanity does not have the opportunity to break the cycle of disease, lost productivity, and poverty.

Clean water's connection to societal progress

In the United States, it's easy to take access to safe water for granted. We turn a tap and it appears. But this was not always the case. Clean water played a pivotal role in ushering in social progress in the U.S. and other developed countries. A little over 100 years ago, New York, London, and Paris were centers of infectious disease. It was sweeping reforms in providing water and sanitation services that decreased mortality and enabled human progress to leap forward.

This is the good news: solutions are simple, affordable, and available today.

I co-founded Water.org with Matt Damon to reach people with these solutions. So far this year, we've reached more than 238,000 people with clean water and sanitation through community-led, sustainable projects.

But philanthropy alone will never reach the nearly one billion people without clean water. That's why Water.org is constantly innovating to accelerate change. Our most recent innovation is WaterCredit, which facilitates small loans for water and sanitation. This empowers people to immediately address their needs and frees up grant resources to go to those living in greatest poverty.

Water.org can't bring clean water to everyone. But we can help create a paradigm shift. Corporations, foundations, nonprofits, multilateral organizations, individuals—and perhaps most importantly, those in need of clean water—each have a critical role to play in the overarching partnership that is needed to bring clean water to all. By empowering people in need and supporting sustainable and scalable solutions, together we can make global access to clean water a reality.

Gary White
Executive Director and Co-Founder, Water.org

MY BEST TIPS

1 One of the most direct ways to help people in need of clean water is to donate. For $25, Water.org can bring one person clean water for life.

2 The first step in creating change is education. Make others aware of the water and sanitation crisis and why it matters. Tools available at: http://water.org/help.

WE RECOMMEND

Got water? Consequences of the Global Water Crisis.

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"Access to clean water is a fundamental human right. However, treating water that is suitable for human consumption comes at a price."

Sustainable solutions for freshwater ecosystems **p. 4**
The crucial steps towards effective resource management.

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Managing Director: Jon Silverman
jon.silverman@mediaplanet.com
Editorial Manager: Jackie McDermott
jackie.mcdermott@mediaplanet.com

Responsible for this issue:
Publisher: Ian Silbert
ian.silbert@mediaplanet.com
Business Developer: Paul Herron
paul.herron@mediaplanet.com
Designer: Mariel Fitzgerald
mariel.fitzgerald@mediaplanet.com
Contributors: Eryn-Ashlei Bailey; Water.org; WaterWideWeb.org; Gary White

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We Live Here Too

Philip Morris USA's Natural Treatment System

For Altria Group and its companies, leadership means more than just financial strength and brand performance. We believe we can also play a leading role in strengthening our community and investing in the environment we all share.

That's what inspired Philip Morris USA to develop 48 acres of engineered wetlands – an innovative approach for treating wastewater from one of its Virginia-based facilities. The wetlands provide a natural filter designed to improve water quality before the water is returned to the James River and ultimately the Chesapeake Bay, and create new habitats for dozens of species of wildlife.

By working to reduce their impact on our surroundings, and supporting organizations that are leading stewards for the environment, Altria's companies are taking action to improve our communities. We gratefully acknowledge the many individuals and organizations whose efforts help protect the natural resources we all share.

To learn more, please visit altria.com

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SUSTAINABLE SOLUTIONS FOR FRESHWATER ECOSYSTEMS

TIP 2

INSTALL WATER-SAVING SHOWERHEADS AND FAUCETS

Freshwater ecosystems such as rivers, lakes and wetlands account for less than one percent of the Earth's surface area.

Half of the world's wetland areas have been drained, plowed or paved in the last century. Yet, 40 percent of fish species live in freshwater habitats.

"An unfortunate truth is that animals and plants that depend on freshwater biomes are disappearing faster than any other species on Earth," said Chris Williams, director of the Freshwater Program at the World Wildlife Fund.

"Freshwater conservation is vitally important in terms of conserving biodiversity and nature on this planet," continued Williams. Animals and plants that live in freshwater ecosystems depend on the adequate flow and quality of freshwater for survival. Interruption of these natural habitats from agriculture, building freshwater infrastructure and pollution compromises the stability of these environments.

The first step, not the only step

Increasing water use efficiency is only the first step in managing the world's freshwater resources. "It's not only about increasing water efficiency. It's also about saving a certain amount of water so that freshwater ecosystems can function and the planet's biodiversity can be preserved," Williams highlighted.

Improving municipal infrastructure is a crucial step in the unified effort toward comprehensive and effective resource management. "City infrastructural systems lose a lot of water due to leakage," noted Williams.

Agriculture accounts for 70 percent of current water use. Decreasing water input for growing crops is another critical element of conservation practices. Innovating cutting edge technology and implementing proven methods in water efficiency could save the world drop by drop.

ERYN-ASHLEI BAILEY
editorial@mediaplanet.com

PHOTO: COURTESY OF WATER.ORG

Water security: The most important security issue of the 21st century

Global water demands are increasing. Food security and energy production are major considerations in global water security.

Public health and economic development are in large part moderated by the management of water systems. Essentially, the future of the world is contingent upon safe and sustainable water systems. But how is the international community addressing this concern?

Civil and environmental engineers are advancing techniques in water management. Sharing best practices in project implementation is crucial to the future of sustainable water projects in both the industrialized and developing world. How are environmental engineers tackling the mounting social issues that surround the water demands that exceed the supply of it?

Dr. Pedro Alvarez is the George R. Brown Professor and Chair of the Civil and Environmental Engineering Department of Rice University. Alvarez asserts: "Ensuring reliable and affordable access to safe water is one of the biggest issues that we face in the twenty first century."

Making clean water accessible in the developing world requires an increase in efficiency in water infrastructure and a decrease in materials and energy used for completing projects. Environmental engineers are developing innovative mechanisms to meet the growing water demands with several factors in mind.

Adjustments to existing and new water systems call for technical simplicity. In order for water systems to successfully supply a community with water, the framework should be uncomplicated so that maintenance to the system can be provided without requiring assistance of experts.

Reframing the way people think

The social-cultural acceptability of new water initiatives plays a part in the success of particular engineering endeavors. Reframing the way people think about the significance of water and the means of acquiring it are the next steps in innovative water provision methods.

For example, implementing water recycling paradigms in developed countries may be met with resistance. Individuals in different cultures and social classes may oppose the trend of treating waste water and then recycling it for drinking water.

Information about water engineering projects should also be disseminated so that end users may understand the framework of water programs and share the technology with others at the local level. In this way, the project can be maintained from within the community. If the water system needs repair, local users can fix the problem without forgoing access to water for long spells until an expert arrives to remedy it.

"Technology is not enough. Responding to increasing water demands requires a multi-disciplinary effort that includes education and a sanitation plan," continued Alvarez. Reliance on unconventional water sources and treatment plants are the next steps in global water sustainability.

"The single-most important engineering contribution of the twentieth-century was treating water." In the twenty first century, engineers much extend and enhance that contribution to meet growing water needs.

Digging water wells, installing chlorinators and bio-sand filters are proven methods of supplying safe water in the developing world, yet this will not save the lives of the 4100 children who die on a daily basis due to lack of clean drinking water. Clean water will decrease the mortality rate of water-borne diseases, lengthen life expectancy and improve quality of life.

So what are we waiting for?

ERYN-ASHLEI BAILEY

Source: WaterWideWeb.org

editorial@mediaplanet.com

SPOTLIGHT

WATER.ORG CO-FOUNDERS GARY WHITE AND MATT DAMON join slum residents in Hyderabad, India, in celebrating their new water connection.
PHOTO: COURTESY OF WATER.ORG

One of the resounding themes of the global water crisis is that it is primarily a "human issue."

While The United Nations recently declared access to clean water a 'human right,' one billion people still lack access to safe drinking water and 2.4 billion to adequate sanitation. The United Nations put this issue amongst their top concerns, hoping to reduce those numbers in half by 2015. "True Grit" actor and Water.Org co-founder, Matt Damon explains the social implications of water scarcity: "Millions of people—mostly women and children—spend hours each day trying to secure enough water for their families to survive. This prevents women from working and children from attending school. Without access to water a huge segment of humanity doesn't have the opportunity to break the cycle of disease, lost productivity, and poverty."

Though the U.N. Goals are aggressive, there are ways we can make a difference. "You can make a donation—for just $25, Water.org can bring someone clean water for life," says Damon.

MEDIA PLANET

NEWS

Nearly half of the hospital beds in the developing world are filled with people suffering from water-borne diseases due to lack of clean drinking water, poor hygiene regimens, and faulty sanitation systems. Over four thousand children die every day from diseases like cholera and typhoid.

Got water? Consequences of the Global Water Crisis

Mortality rates from water-borne diseases are higher than rates of death from malaria and HIV/AIDs combined.

"The tragedy is that these deaths are so easy to prevent. One hundred and fifty years ago in the U.S. we had the same problems. It's not insurmountable," said Dr. Greg Allgood, director of P & G Children's Safe Drinking Water Program.

Water contamination is a major public health concern both domestically and internationally. Aging water infrastructure in the United States leads to trace levels of contaminants in the water supply. "It's important here in the U.S. as well. Even here in Washington D.C., there are levels of pharmaceuticals and lead in the water supply," said Allgood.

The global water crisis is implicated in the global food crisis. Countries with water needs for agriculture like China, South Korea, and Saudi Arabia, are buying land in Africa and elsewhere for farming. "The argument is that since you can't import water in the quantities that you need, you import food. Then, countries don't need to rely on world markets," said Piet Klop, senior fellow at the World Resources Institute.

The price of clean water

Cultural ideas about water affect the way that water is valued economically. "We're not treating water as an economic good like oil. The price of oil reflects its scarcity whereas the price of water has no bearing on its scarcity. It's underpriced most times," continued Klop. Access to clean water is a fundamental human right. However, treating water that is suitable for human consumption comes at a price. "Supplying, distributing, and treating water requires infrastructure and that costs money."

> "It's important here in the U.S. as well. Even here in Washington D.C., there are levels of pharmaceuticals and lead in the water supply."

The food and beverage industry is at the head of the global water crisis. Water scarcity is a risk factor to future profits and brand reputation for these corporations. Most major corporations increase water use efficiency every year. However, reducing water consumption or increasing efficiency may not be enough.

Large corporations must engage local authorities and competing water users in a comprehensive water management strategy. Irrigated agriculture uses 70 percent of the world's water supply according to Klop. Sharing best practices on water conservation with farmers who draw on the same water supply as major food and beverage corporations will secure water resources for the future.

Global climate change, population growth, and rising urbanization play against humankind in the attempt to conserve the world's water supply. Time to attenuate environmental consequences is limited.

ERYN-ASHLEI BAILEY
editorial@mediaplaneta.com

"YES, BUT WHAT CAN I DO?" FUNNY YOU SHOULD ASK.

1. You can drink clean water, right from the tap. As you've seen, just because your water is clear, doesn't mean it's clean. But it can be when you use a PUR™ faucet mount, which removes 10x more contaminants than the leading pitcher filter.[1] Yep, you read that correctly. 10x the contaminants. Including 99% of lead, microbial cysts and trace levels of pharmaceuticals.[2]

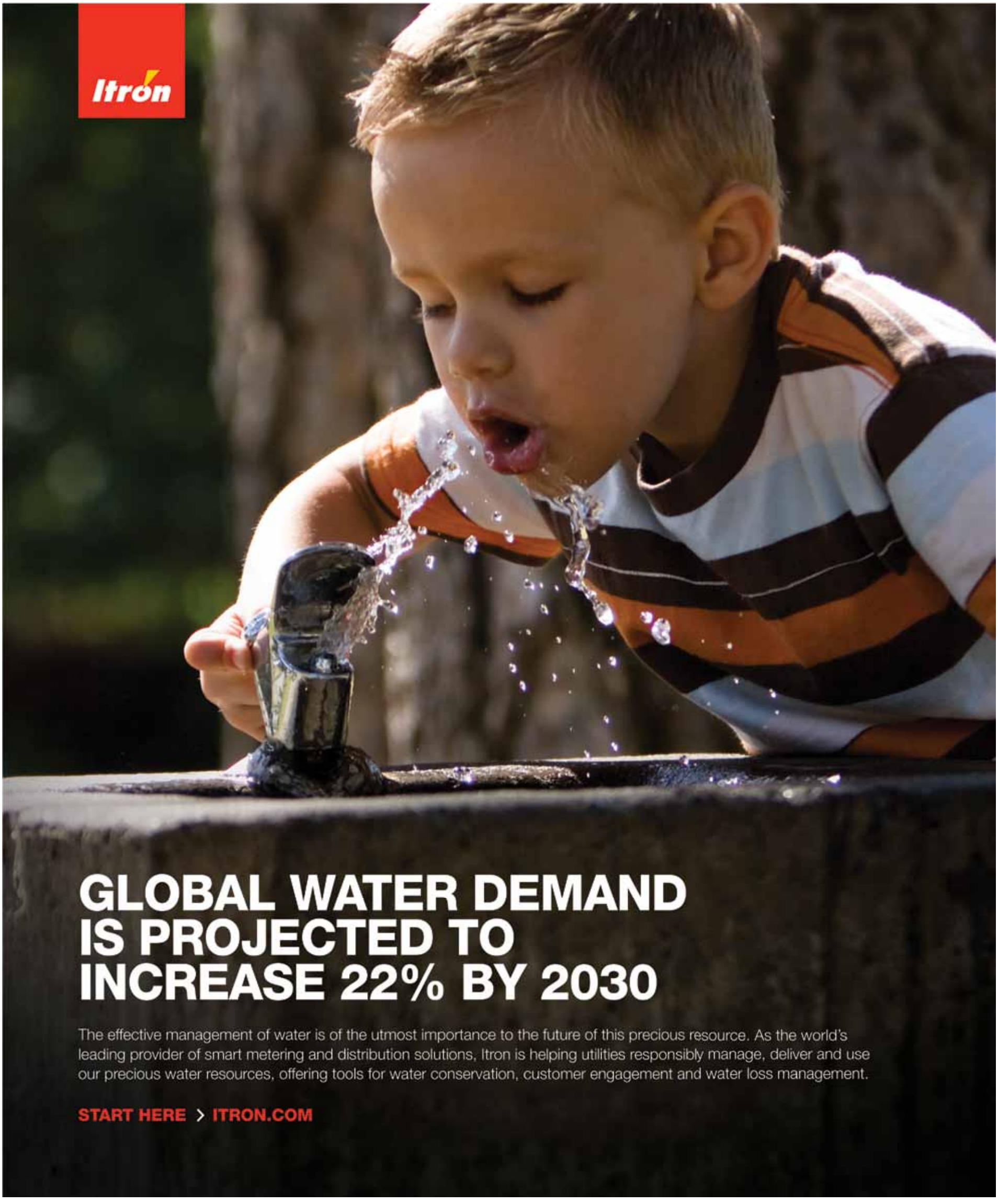
2. You can help people drink clean water in the developing world. When you buy a PUR faucet mount, you do more than ensure your family is drinking clean water. You help families around the world drink clean water too by donating a PUR packet. A tiny miracle that turns ten liters of dirty water into clean drinking water. It's part of our Children's Safe Drinking Water Program, which to date has provided over two billion liters of clean water to those who need it most.[3] Yep, you read that correctly too, two billion liters.

3. You can help save the environment.

There are things that need to be put into containers and shipped around the country. Water isn't one of them. Nope, it's right there waiting for you at your faucet. And with a PUR faucet mount, it comes out clean and delicious every time. No fuss, no muss, and no plastic bottles to throw away.

4. You can save money. Oh, yeah, and then there's money. Let's not forget this one. By installing a PUR faucet mount, the average family can save up to $600 a year.[4] $600 a year? Plus points one through three? Now that's more like it. For more information, visit purwater.com.

[1]As of 4/1/10; seeking certification is brand's choice. Based on comparison of a 3-Stage Faucet Mount Filter – Model RF 9999 vs. leading competitor's pitcher filter, Model OB03. [2]Based on manufacturer testing for reduction in trace levels of 12 pharmaceuticals. Pharmaceuticals may not be (present) in all users' water. [3]For each PUR system purchase, PUR will donate 10 cents to the Children's Safe Drinking Water Fund. For additional program details, visit www.purwater.com or www.csdw.org. [4]Comparing annual capacity and average price of leading faucet mount system and 3 refills, based on filter-life expectancy, to corresponding number and average price of 16-oz. water bottles.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GLOBAL WATER DEMAND
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INCREASE 22% BY 2030
The effective management of water is of the utmost importance to the future of this precious resource. As the world's leading provider of smart metering and distribution solutions, Itron is helping utilities responsibly manage, deliver and use our precious water resources, offering tools for water conservation, customer engagement and water loss management.
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