

## How science can help tackle global water scarcity

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Millions of people around the world lack access to clean drinking water, and experts predict the situation could get worse unless new solutions are implemented. A panel of scientists addressing the issue outlines strategies that could help curb this humanitarian crisis in a new white paper, "Chemistry and Water: Challenges and Solutions in a Changing World." They discuss the report today at the 251st National Meeting & Exposition of the American Chemical Society.

Supplying the world's growing population with clean <u>water</u> has long been a challenge. Many places simply don't have abundant freshwater, or they lack the infrastructure needed to deliver drinkable water to residents. In addition, climate change, land-use shifts, increased trade, and the growth, migration and demographic shifts of human populations are exacerbating the issue.

In the white paper released today, scientists categorize the challenge into four areas: water for health and the environment, detection of contaminants in water supplies, treatment of water, and nutrient and energy recovery. Experts from the panel share best practices and detail how chemistry and chemical engineering can play a role in the development of enhanced water treatment.

For example, one area the <u>experts</u> dive into is the risk of emerging contaminants in the global water supply that can evade traditional detection and treatment. Among these substances are residues from pharmaceutical products, industrial chemicals and chemicals from



consumer products. Addressing these threats to the water supply requires improved, streamlined toxicity screening. Monitoring these contaminants will help experts better understand the associated risks and devise treatment methods to remove them if necessary. Additionally, the panel concludes, governments and research institutes should collaborate on a global level to secure the future of clean <u>drinking water</u>.

The paper was produced by a group of chemists and chemical engineers from five countries who gathered in September 2015 to address global water scarcity. The project is part of the Chemical Sciences and Society Summit series (CS3), a semi-annual meeting of national funding agencies and chemical societies of the U.S., Germany, China, Japan and the U.K. Delegates from the countries convene eminent scientists to explore frontier chemistry research and its potential application to global challenges. Each meeting in the CS3 series focuses on a key societal challenge and the role of chemical research in addressing the challenge.

Provided by American Chemical Society

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