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Next-generation water policy for businesses and government

The solution to water scarcity, in part, will come from new technologies for better managing water as a resource. But to make these technologies more effective, business and policy leaders will need to work more closely to implement them.

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Water insecurity looms as one of the great challenges of the 21st century, and it is one that policy makers and business leaders must face together. Policy makers recognize that certain technologies being developed by leading companies are critical tools for effectively managing scarce water supplies. But business leaders must do more to help shape the understanding of how good policies make it possible for technologies to be productive—and how ineffective ones do the reverse.

Public-sector leaders and nongovernmental organizations (NGOs) have long dominated the debate on water policy, but within the last five years, a growing number of progressive private-sector companies have also started to lend their perspectives on how best to effectively manage water. These companies have begun by paying much more attention to the water environment in which they function. As they develop a new generation of water-related technologies, they also increasingly influence a new generation of public policies that stimulate the development and use of these technologies. Here is how a number of them are engaging along both of these dimensions.

One group of companies, including beverage, mining, and energy businesses, has found that growing water scarcity constitutes a threat

Desalination plant in Carboneras, Spain.

to their social license to operate. In response, some have made large donations to activist groups in the hopes of buying peace. Others have asked for water standards that they can then meet in their plants. The most far-sighted of these companies, however—with Nestlé as a leading example—recognize that while companies have to manage water efficiently behind their factory gate, society (along with companies and their suppliers) needs an equitable, efficiency-stimulating, and predictable legal and regulatory environment that governs all water uses. These companies also believe that private businesses have useful and legitimate inputs to make into the policy-formulation process, and that good business practices can guide effective implementation.

A second group of companies is developing technologies that can enable society to get more product—more food, energy, income, employment—per drop of water. There are three broad segments. The first comprises companies that develop productivity-enhancing seeds and agricultural technologies. Because agriculture accounts for

more than 80 percent of water consumption in the developing world and because the productivity gains of the last round of agricultural technologies (the "green revolution") has fallen to less than 1 percent a year (from about 3 percent a year in the 1960s), these innovations are vital for better water management. The importance of genetically modified organism (GMO) crops—a core agricultural technology—is illustrated by the contrasting performance of corn in Europe, where GMOs are not allowed, and in Iowa, where 90 percent of corn is grown from using GMOs. In the last ten years, corn yields in Europe have stagnated, while in the United States productivity has grown at over 2 percent a year. Existing GMOs already use substantially lower amounts of fertilizers, pesticides, and water. And some new-generation crops will be better able to thrive despite water stress.

A second segment of companies is developing new technologies for treating water and wastewater. The process of desalination illustrates the importance in this area. The laws of thermodynamics state that it is theoretically possible to desalinate seawater by using only 25 percent of the energy currently required to do so through existing technologies. If new developments in, for example, nanotechnology and membranes allow even half of this potential to be realized, the cost of desalination will fall to a level where most cities and industries in coastal areas throughout the world can turn to it as the new source of choice. The third segment comprises companies that provide users with just-in-time and just-what's-needed information—such as on the probability of rainfall, on soil moisture, on water, and on fertilizer requirements. This is essential for energy consumption, domestic use of water, and, most important, for agriculture. Precision agriculture can produce much more crop per drop than traditional methods can, and industries and cities can use much less water too.

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Executives at these leading companies know that progress in water management depends on linked advancement in technologies and policies. They have seen instances in some countries where policy shortcomings mean that many existing technologies that make more efficient use of water are not being fully employed. This has prompted a growing number of companies to engage with policy makers to ensure that key policies—such as tradeable water rights, support for intellectual-property rights, and efficiency-enhancing regulation—are implemented. In conversations with policy makers,

corporate leaders highlight examples like the Murray-Darling Basin, in Australia, where an enabling policy environment means that a 70 percent reduction in water availability has had virtually no impact on agricultural production. In situations like this, policy makers know that what is needed is a "next generation" of technologies that will enable society to do more with less. And they know that the key to achieving this is a legal and business policy environment that stimulates the development of the next generation of water efficiency technologies.

Although the glass may certainly look half empty, it is also half full, not least because progressive business leaders understand that water scarcity is an issue that will affect their industries, suppliers, and the communities in which they work—and they've stepped into the policy area to help shape solutions. And as they have, policy leaders have begun to better understand the private-sector's contributions and to draft more effective enabling regulations. But more business and policy leaders need to follow the lead of their progressive colleagues. That is how we will secure further development of new technologies and the formulation and implementation of a new generation of water-management policies.

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