ENERGY & CAPITAL
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Water Desalination Investments

Special Report

The Cure to Our Water Woes

Water desalination (or *desalinization* to some), is often looked to as the cure to our water woes.

And rightly so. It only makes sense that we derive freshwater from the salty stuff that makes up about 97% of water we have. High cost has prevented its widespread adoption thus far, so we continue to exploit the dwindling river water and groundwater resources we have access to.

But the water industry's unique dynamics will ensure desalination enters the scene in a big way. You see, only demand for water rises. Supply never increases; it either maintains or decreases. Which makes water investments a no-brainer.

As population continues to rise, and as water availability continues to decline, the price of water will begin to rise dramatically, paving the way for desalination to become cost-competitive.

It's mind-numbingly simple, really. We all need water to live. If we can't readily take it from traditional sources, we'll certainly be willing to pay more to get it elsewhere.

That's probably why the Middle East accounts for about 75% of desalination capacity to date. Water is scarce there, but necessary to survive. And their access to excess energy made desalination the obvious answer.

Desalination will soon be the obvious answer in all locations near saltwater or where saltwater has intruded underground aquifers.

Types and Cost of Water Desalination

For some time the prevalent method of desalination has been flash distillation. This technique saved energy by boiling water at low pressures, which requires less heat. This is the dominant technology for existing plants, but most new plants are being built with membrane technology.

Known also as *reverse osmosis* , this process pressurizes saltwater and forces it through membranes that separate the salt from the water.

Reverse osmosis uses even less energy than distillation, and thus has been driving down desalination costs over the past few years, gobbling up market share in the process.

Water is now being desalinated for about $0.50 per cubic meter (about 264 gallons). This is cheaper than the cost of municipal water is some areas. In Paris, for example, municipal water costs $4.08 per cubic meter. At the low end of the range is Malaga, Spain, where water costs $0.85 per cubic meter — much less than the Paris price, but still more costly than modern desalination techniques.

As scarcity mounts, and costs continue to fall, you can bet the use of desalination will surge in coming decades.

Desalination 2.0

In a recent comprehensive report by Global Water Intelligence, global desalination capacity stood at 55.4 million cubic meters per day. For perspective, demand for water in Hochiminh City, Vietnam (pop. 9.3 million) is about 1.4 million cubic meters per day.

So, all the current desalination in the world is only enough for about 40 large cities.

There is a lot of market share yet to capture. And a lot of money to be made.

That will happen through innovation. With regard to desalination, innovation means desalinating more water with fewer costs. More often than not, fewer costs means reduced energy inputs.

Enter cogeneration. This is the concept of building a power plant and a desalination plant together in a mutually beneficial manner. That is, the power plant can produce energy for the desalination plant while wastewater can be used to cool the power plant.

There are several combinations of cogeneration. They can be stand-alone, feed power back to the grid, or use a number of fossil fuel or renewable energy components.

In Perth, Australia, a desalination plant runs partially on wind power. And a planned plant in Sydney will use renewable energy exclusively.

Further innovations in cost and energy reduction will speed the adoption of desalination.

Profiting from Water Desalination

Desalination has been a big boy's game for some time now.

Huge conglomerates recognized its potential for profit early and gobbled up the competition in order to secure market share.

As a result, GE is one of the biggest desalination players in the world, but certainly not a pure play.

To get investment exposure, you'll want to check out some of the large international water engineering firms. This will give you access not only to desalination, but also to the broader emerging theme of water scarcity.

Veolia (NYSE: VE), Consolidated Water (NASDAQ: CWCO), and even Tetra Tech (NASDAQ: TTEK), are companies to watch on that front.

You can view the HTML version here: Water Desalination Investments