

Rainwater harvesting: a niche for plumbing contractors

[Candace Roulo](#)

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CHICAGO — When one thinks of rainwater harvesting, the typical image that comes to mind is rain barrels and cisterns. However, there is so much more in the world of water reduction strategies — today rainwater harvesting and other conservation strategies can be looked at as a business niche for plumbing contractors.

What is driving the rainwater harvesting and water conservation business these days?



According to David Crawford, president of Rainwater

Management Solutions, Salem, Va., and president of [The American Rainwater Catchment Systems Association](#), there is an increased interest in rainwater harvesting in California and Texas.

“The drought gets people thinking about saving water and with the drought this year it makes them think about

this,” said Crawford. “It’s unfortunate that until the tap is cut off people don’t seem to pay attention.”

Another issue is the cost of water in the U.S., according to Crawford.

“We don’t charge what is really costing us; it’s buried in the taxpayers’ base,” said Crawford. “In Europe they charge you the true cost of water, so there is a big difference when you are paying six or seven dollars per hundred gallons compared to paying a couple dollars per thousand gallons. As the cost of water increases here, it will drive conservation more and more.”

For the contractor, offering water conserving systems and products can attract more customers.

“People are becoming more conscious of this and as prices do go up the contractors that offer water conservation and energy efficient products will be drawing more people than the guy that has been doing the same thing for the past 20 years,” explained Crawford. “Rainwater harvesting is a true added benefit for a contractor’s business.”

Crawford also points out that to set yourself a part you need to be different and if you are going to improve you need to do things different; new actions are needed.

“So many people don’t understand this,” said Crawford. “Contractors need to be looking at storm water regulations that are kicking in. Municipalities are changing requirements for storm water collection. Rainwater harvesting is a great solution to this, as well as getting tax credits by putting rainwater harvesting in. Now that there are codes and standards out there people are getting on board, so rainwater harvesting is starting to be more accepted.”

According to Steve Lehtonen, senior vice president of Environmental Education at [International Association of Plumbing & Mechanical Officials](#) (IAPMO), droughts and water rate increases certainly impact the market, but the lack of a clear water plan by governments hinders the ability to use water more efficiently.

“When governments respond to drought conditions with temporary water rationing or restrictions, they fail to provide a clear path to efficient use of water in the future,” said Lehtonen. “We are finally beginning to see the realization by government that effective planning means water reuse systems and rainwater harvesting, as well as more efficient plumbing and landscaping products. Progressive plumbers have responded to the Green Plumbers message, but the majority of plumbers will not get involved with training unless they can be sure that governments are serious about long-term water efficiency.”

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In 2007, Green Plumbers brought over five basic courses as part of IAPMO’s agreement with the Master Plumbers and Mechanical Services Association of Australia (MPMSAA). Since these courses originate in Australia, they needed to be adapted for the U.S. market by Green Plumbers. The MPMSAA was the founder of the Green Plumbers brand, and was created in response to more than a decade of drought in Australia.

The five basic courses that were adapted to the U.S. market are Caring For Our Water, Solar Heating, Climate Care, Water Efficient Technology and Inspection Report Service.

According to Lehtonen, the Water Efficient Technology course works very well for commercial contractors because of the larger footprint of commercial buildings and the substantial savings that can occur, but the course is applicable for all projects, particularly custom residential.

“We use the Water Efficient Technology course as an entry-level point for new, promising technologies in water and energy efficiency,” said Lehtonen. “Depending upon region, climate, and other factors, rainwater harvesting can be a very effective solution for water efficiency and an excellent marketing tool for contractors. Another solution is graywater systems. Our goal is to help the contractors see the potential of these systems and recognize when and where each system can be beneficial for the customer.”

Companies in the business

At [Rainstorm Solutions](#), Wilmington, N.C., the mission is to help building owners, developers and homeowners to reduce the impact of their buildings on the environment through innovative sustainable water practices.

Bill Aldridge, Accredited Professional in Rainwater Harvesting Storm Water (SCM), and president of Rainstorm Solutions, saw a need for stormwater management approximately eight years ago, which led him to starting Rainstorm Solutions. Aldridge, an entrepreneur, knew a developer that was interested in creating something other than a standard retention pond, so the developer and Aldridge researched different ideas.



“During our research we discovered that you can reduce pond size by individual

stormwater measures,” said Aldridge. “We also discovered that rainwater harvesting is a viable and acceptable practice too, so we started selling rainwater harvesting systems.”

Rainstorm Solutions has an impressive portfolio of commercial, institutional and government projects.

“We do several different types of projects, such as the University of South Carolina; the University is building a new international business school, which will be LEED Platinum certified,” said Aldridge. “We put in a large rainwater harvesting system. The university is using collected water for toilet flushing and irrigation on the surrounding grounds as well as the green roof and some atrium areas.”

The company has also worked on residential projects. “I would say for residential and commercial projects, the rainwater water is used for irrigation, but in my region [Wilmington, N.C.] we are starting to see it used for toilet flushing,” said Aldridge. “We just finished up a couple residential jobs. One is collecting rainwater in low-ground tanks. Another resident added onto her second story deck. We connected the rainwater harvesting system under the deck to the current irrigation system and the homeowner really loves it.”

At [Wahaso - Water Harvesting Solutions](#), Hinsdale, Ill., the mission is to support water reduction strategies on the commercial side and to focus specifically on commercial and institutional.

“This is a new industry and many people don’t know much about it,” said John R. Bauer, president of Wahaso - Water Harvesting Solutions. “Contractors, mechanical engineers and architects are the three groups we focus on with our Lunch & Learns and webinars. We also engage the plumbing engineers. We go to ASPE and Greenbuild; we have presented at the Green Technology Center in Chicago. We have done webinars, training sessions, etc. We want to teach everyone who is interested in this industry what it is about and its best practices.”

Mega-trends

According to Bauer, there are three mega-trends driving water reduction strategies. The first trend is water availability of potable water for municipalities.

“By the year 2050 two-thirds of the counties in the U.S. are projecting either major or severe issues with the supply of water,” explained Bauer. “Even areas like Chicago, with Lake Michigan nearby, are having issues.

“The State of Illinois leaches the maximum amount of legal water out of Lake Michigan each year,” explained Bauer. “By law, each Great Lakes’ state is limited to a certain amount of water. So, as the communities beyond areas like Chicago, Illinois, grow, those areas want to tap into the lake water, but they can’t. Lake Michigan is already maxed out. Then those communities start drawing from the aquifer at a quick rate. Each year, the level of the aquifer goes lower and lower.”

Population growth, climate change and available water supplies today also play into this unsustainable growth rate of water use.

“Many areas are interested in finding ways to slow the growth of water use, so you now have water efficient fixtures that are required, water rates going up, and a real interest in doing water reuse,” said Bauer. “Just a few years ago many municipalities still viewed water harvesting systems as competition to their sale of water to neighborhoods. Why would they want to help save water? That mentality has changed, so now most communities are welcoming water harvesting as part of their long-term supply strategy.”

The second mega-trend is storm water management. Large properties are sending so much storm water to municipalities that it overwhelms the system. In communities like Chicago, Los Angeles and New York City, developers are being tasked to manage the stormwater run-off as part of the development.

“Many communities are now taxing storm water runoff based on impermeable square footage or requiring detention of the first inch to two inches of rain so it slows the flow of water off of the property during and immediately after a storm,” explained Bauer. “These detention systems are expensive to install and the developers normally see no return on that investment. But that liability can be an asset if we tap into that supply and harvest the stormwater for non-potable use. It’s a great source for flushing toilets, irrigating landscaping and as a supply to evaporative cooling towers. Property owners can save millions of gallons of water each year for the life of the building and see a real ROI for their stormwater detention investment. This is still a relatively new idea, but quickly gaining acceptance.”

The third mega-trend is sustainability. “Green building and conserving resources, rings true with building owners, employees, customers, etc.,” said Bauer. “With LEED Version 4 there are a lot of points for water reuse reduction, so USGBC has made changes to encourage focus on water reuse.”

These three mega-trends are overlapping, and fueling growth in the industry.

“This is a big growing market, and it’s still in its infancy,” said Bauer. “The codes that are out there are shifting. And municipalities are trying to decide what codes to adopt. This is a time of fluctuation with what the rules are, some of the codes are really old and they really don’t apply anymore.

“Contractors should embrace these trends and the opportunity to participate in this emerging new market,” added Bauer. “Companies like Wahaso can supply the systems on pre-fabricated skids so the installation is fast and easy. Contractors handle the resale and installation along with the additional plumbing, electrical and other mechanical work. The systems are good for our sustainability efforts and they are good for business.”

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