

## **Commercial Water Harvesting Trends and Insights from Leading System Provider Wahaso**

*A review of 300 water reuse projects lends insight into trends driving emerging new market in the U.S. and Canada.*

Chicago, IL ([PRWEB](#)) October 21, 2015 -- While rainwater harvesting and other forms of onsite water reuse have been practiced for thousands of years, the application of water harvesting systems in commercial and large institutional projects is still a relatively new practice. Factors such as drought, concerns for municipal water supplies, trends in green building, and changing municipal guidelines have contributed to a recent surge in commercial projects, specifically systems that capture rainwater, greywater, and other on-site water sources for reuse. Captured water is sanitized and pressurized for safe reuse in flushing toilets, irrigating landscaping, as well as other uses. A typical commercial system can save one to three million gallons of municipal drinking water every year for the life of the building.

Wahaso – Water Harvesting Solutions was founded in 2008, and is a leading design-build firm in the industry. The company focuses entirely on the designing and building of commercial water harvesting systems and has designed nearly 800 projects throughout the U.S. and Canada, with hundreds of installed and active “pipeline” projects in the works. Wahaso recently looked back on the 300 projects it has designed in the past two years to help bring light to the trends driving the industry.

John R. Bauer, President of Wahaso, reviewed the project statistics to draw insights from the recent trends. Because systems are normally designed and specified early in a building’s design, projects initiated in the past two years are a good indicator of the landscape of systems that are likely to be installed and operating in 2016 to 2018. Note that the trends outlined as follows only reflect those seen by one company and do not account for strong regional players or that many of the projects designed may never be funded; however, these trends still give insight into an important emerging market.

### **Drought, Codes, and Sustainability Drive Geographic Trends:**

It makes sense that states with the most severe municipal water supply issues are likely to be the most interested in saving water through harvesting efforts. With this in mind, it was not surprising that California had more projects added over the last two years than any other state. Other dry states such as Texas, Arizona, and Florida have also seen a steady growth in projects. However, drought is not the only driving factor of projects in drier states. As Bauer explained, “Drought alone will not drive projects- the surge in California projects is also being driven by a change in municipal codes.” This can be seen in southern California and the Bay Area, where municipalities are now mandating some sort of water reuse on major new projects. Six years ago, it was illegal to flush toilets with any water source other than municipally certified drinking water, even amidst drought conditions.

Project growth in less drought-affected states such as Illinois, New York, Pennsylvania, New Jersey, and Washington D.C. are more likely a reflection of the general interest in sustainability in those regions than an urgent requirement to preserve municipal water supplies. Recent trends in sustainability, green building, and LEED certification have driven commercial, residential, and municipal building owners to incorporate water harvesting systems into their plans or to retrofit systems into older buildings.

### **Rainwater Harvesting Still On Top:**

System design begins with an analysis of all available on-site water sources and potential uses, resulting in a Water Balance report by Wahaso. System efficiency, measured by total water savings, is often improved by gathering multiple sources and then applying it in more than one way, so rainwater and cooling condensate might be collected to irrigate and to flush toilets. Or alternatively, greywater and rainwater might be collected to flush toilets and to help cool the building. However, rainwater-only systems still make up the majority of projects initiated with Wahaso, with those projects representing 65% of all systems.

Despite rainwater harvesting making up the majority of the projects, multi-source systems and greywater systems account for another 27%. Greywater systems make the most sense in arid states, and Bauer notes that recent water treatment technology advances and industry standards should spur rapid growth in greywater reuse in California and other Southwest states.

Irrigation is the most common application of harvested water, with those projects making up about half of all systems the company has designed in the past two years. Toilet flushing is the next most common with about 20% of projects, followed by systems supporting multiple uses. An emerging application is the use of harvested water in evaporative cooling systems, which currently comprised of about 10% of the company's projects. Bauer noted that cooling tower supply systems tend to be highly efficient due to the vast amounts of water evaporated and the relative low cost of the filtration and pressurization systems.

#### Commercial Projects Taking the Lead:

A significant trend over the past two years has been the increased interest in water harvesting systems for commercial properties. The early adopters of systems were institutions such as schools, municipal buildings, and government projects- in particular, military buildings. According to Bauer, "Municipalities like Chicago and New York were anxious to see these systems put into use and funded many of our earlier projects. A requirement for green certification in new military base buildings also drove a lot of our projects, and still do." Now, commercial projects make up about half of all the systems the company has designed in the past two years, with offices and housing developments making up the majority of those projects.

#### Most Projects Happen in New Construction:

New building projects make up nearly two-thirds of the systems the company has supported in the past two years, as it is often easier to fund a harvesting system in the scope of a large project than to fund a project for an existing building when the system must compete with other ROI projects. "There is no question that a majority of the projects we see are for new construction," explained Bauer, "new buildings have far fewer constraints on the water sources and uses, particularly as it relates to plumbing for greywater collection and toilet flushing." However, the company still sees great potential for retrofit projects, especially rainwater or stormwater harvesting systems used for irrigation or cooling tower make-up. These systems typically do not require expensive plumbing modifications to reap water savings, and make up about 20% of the projects the company sees.

Overall, Wahaso is enthusiastic about the growth of recent projects coming into the company pipeline, as well as the growth of the industry as a whole. To view case studies of installed projects, visit <http://wahaso.com/projects/>

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