

10 Water-Tech Winners From WEFTEC 2017



By Kevin Westerling



[@KevinOnWater](#)

For the second straight year, the Water Environment Federation Exhibition and Conference (WEFTEC) came to McCormick Place in Chicago, returning also to the city which launched WEFTEC 90 years ago. As always, it was a showcase of the latest technologies and ideas available in the water/wastewater industry, but each show also has its own "feel" that reflects the times.

This year, I sensed a bit more optimism in the air as compared to recent shows. Years of underfunding (and a slow overall economy) combined with challenges both immediate and looming can have the effect of bogging down morale, but then there's the defiant about-face — that "pull yourself up by your bootstraps" moment of confronting challenges with vigor. I believe the industry has reached that moment. Funding remains an issue, as does failing and vulnerable infrastructure, water scarcity, and potential for contamination. Labor is yet another issue, as plant operators hand the proverbial keys over to a generation of workers with knowledge sets that are very different (not to say better or worse) than their predecessors. But

rather than bemoaning the changes and challenges, the industry is rallying around solutions, including technologies geared toward energy efficiency, resource recovery, and automation — all of which are necessities for the times ahead, finally being recognized as such.

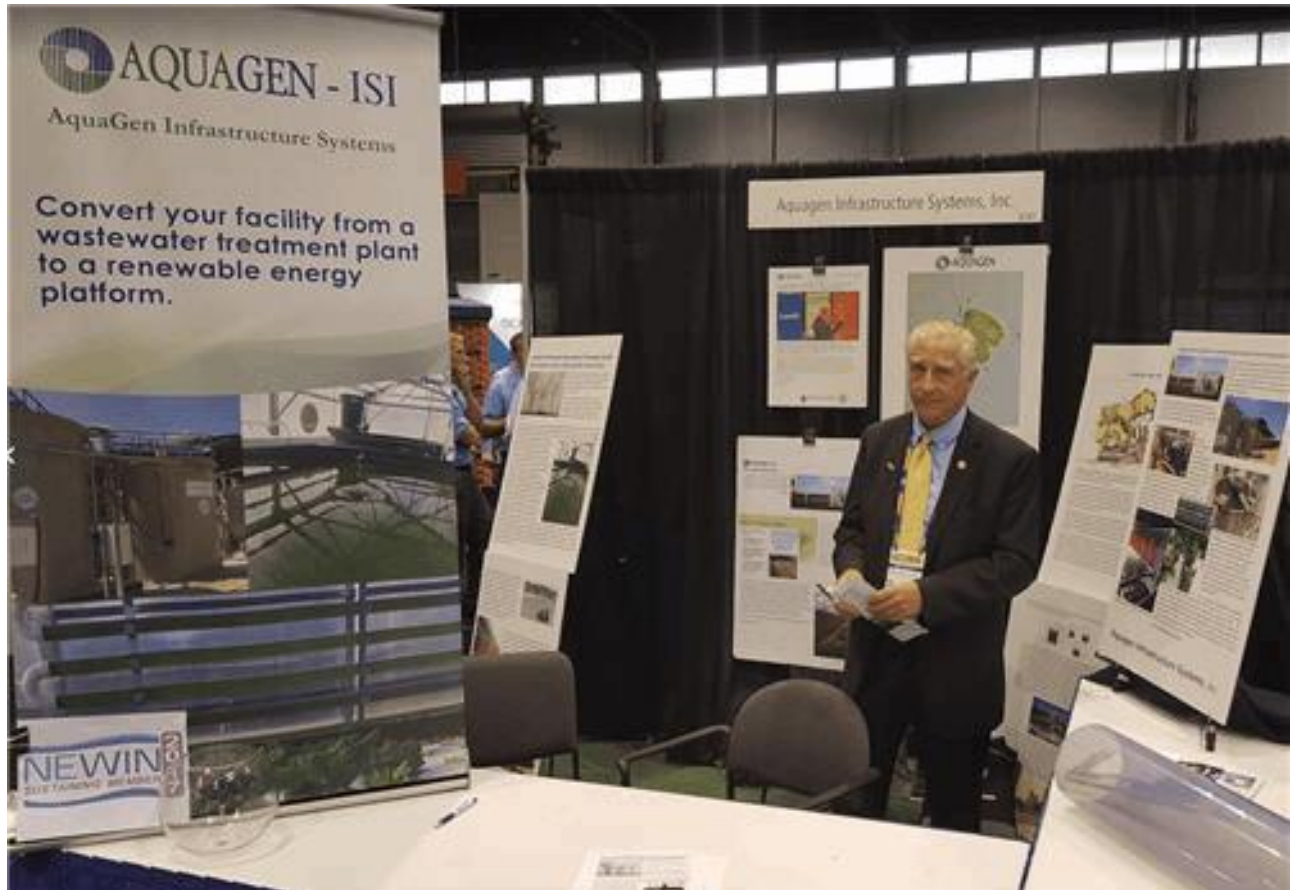
Here are a few of the technologies from WEFTEC that I found to be impressive and important for keeping utilities a step ahead of our collective industry challenges.

AquaGen System by [AquaGen Infrastructure Systems, Inc.](#)

It may seem odd that algae, being so troublesome in certain areas, can also be of great benefit to the environment and wastewater operations in particular. AquaGen has created a multistage algae wastewater treatment process that cultivates algae specifically to "super-saturate" the water with oxygen; the algae is then separated out, and the oxygen-laden water is used for biological treatment that eliminates the need for aeration and the expense of blowers. The recovered algae is a valuable

resource that can be turned into fertilizer or fuel. Utilizing Membrane Separation as a final process step guarantees advanced tertiary water quality suitable for unlimited re-use.

The algae-based treatment solution can be added to existing schemes to reduce nutrient effluent levels and operating costs, or it can be included as part of AquaGen's complete solution, which also includes an upflow anaerobic sludge blanket (UASB) process to remove up to 75 percent of the organic load at the headworks, thus reducing biological oxygen demand in secondary treatment, as well as other innovative features along the treatment train.



The biogas is blended with pipeline gas to fuel a co-generation based district energy platform in a baseload renewable energy supply for the community. District Energy, has been identified by the United Nations as one of the planets most under-utilized community infrastructure assets. We convert the community's wastewater into a renewable resource.

Aquagen-ISI was invited to exhibit in the WEFTEC 2017 Innovation Pavilion as one of a handful of emerging technology companies leading the industry into the future. Aquagen is the first fully integrated comprehensive solution for converting the community wastewater flow from a problem into a resource. Utilizing micro-algae to remove carbon dioxide from the environment and turn it into a valuable supersaturated oxygen resource for a myriad of uses, we utilize biomimicry to reduce costs and enhance the resource reclamation potential of wastewater organically rather than mechanically. Aquagen is a Sustaining member of NEWIN, The NorthEast Water Innovation Network, who sponsored a reception at our booth during WEFTEC along with Bank Leumi, USA.