

onsite wastewater processing

automatic management sustainable city integration smart biofuel recovery hydrologix<sup>®</sup> bio-controller technology patent protected system

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Clean Blue

US Patents 7,615,156 - 8,471,725 8,585,901 - 12/344,189 CleanBlu<sup>®</sup> and Hydrologix<sup>®</sup> are registerd Trademarks with the USPTO



# **CleanBlu**<sup>®</sup> Control

swart technology systems are self-contained wastewater treatment systems that can be deployed in any situation, domestic and industrial, that require wastewater to be processed and reused at its point of creation. The demand for reliable, efficient and low-cost wastewater treatment systems is increasing around the world, especially in densely populated urban regions. In these areas, adequate wastewater treatment systems often do not exist and uncontrolled discharge of wastewater endangers health and pollutes local water resouces.

Many governments have passed new environmental regulations stipulating that dischargers of wastewater, such as small and medium enterprises and housing estates, will be held responsible for wastewater pollution. Therefore these entities should treat wastewater adequately on-site *before* it is discharged or released into the environment.

Existing, often old and dilapidated, centralized treatment systems are expensive to maintain and have a large carbon footprint due to ineffecient energy use. Conversely, **CleanBlu®** systems do not require sophisticated and costly maintenance, are reliable, long lasting and provide efficient treatment for daily wastewater flows from 1 to 1,000m3 (300-300,000 gal/day). **CleanBlu®** smart systems do not require a sewer system, thus saving millions of dollars currently spent on maintaining sewers that are essentially 2,500 year old Roman technology! **CleanBlu®** systems are fully automated, can be controlled and monitored from a smartphone via dedicated app, are cost efficient, reduce public health hazards, have no byproducts, have no single point of failure and require no transportation of wastewater. In fact, 100% water is reclaimed and can be reused for non-potable water uses, such as irrigation and toilet flushing.







www.unhabitat.org

# **CleanBlu**<sup>®</sup>

# **CleanBlu<sup>®</sup>** The System

smart systems are comprised of two basic components that can be scaled to address almost any treatment challenge. The first component is our patented Bio-Element, shown right. By injecting air into the bottom of the element the waste liquid is circulated within the elements containing media tubes that allow microbes to form a biofilm. The same air also supplies the oxygen for the microbial biofilm to aerobically bioremediate (biologically reduce) the waste. The Bio-Elements have no moving parts are low cost and easy to maintain. Installation of **CleanBlu**<sup>®</sup> systems is fast and straighforward. The top of the Bio-Elements is equipped with a camera and a wide spectrum LED array, which acts as a sensor and is capable of analyzing the waste. It also produces a live feed video that can be viewed remotely. The second component is our advanced Hydrologix metagenomic Bio-Controller system, which completes the **CleanBlu**<sup>®</sup> system by supplying the air, continuously growing microbes and periodically injecting them into our Bio-Elements to maintain a healthy, continuously adapting biofilm. Completely automated and connected to the web it can be accessed via a smart phone. The smart Hydrologix<sup>®</sup> Bio-Controller analyses, learns and adapts to the varying waste streams assuring optimal performance.



## **CleanBlu<sup>®</sup>** Scalability

**Clean Blu** Bio-Elements can be scaled to any capacity, typically adding one Bio-Element for each 10 m<sup>3</sup> (2,500 gal) per day. Lowered into preexisting wastewater enclosures the elements are connected with 2 polylines, one for air and one for microbes and a telemetry cable. Simply hook the connections up to our Hydrologix<sup>®</sup> metagenomic Bio-Controller system and you're ready to go!

The Hydrologic<sup>®</sup> metagenomic Bio-Controller system can be mounted up to 100 meters away and can be powered entirely by solar panels or a wind generator. Each system comes with easy to understand installation and maintenance instructions and is usually carried out by a licensed plumber. **CleanBlu**<sup>®</sup> systems are easily installed in new and existing grease interceptors/traps for foodservice providers or above ground for domestic use servicing several residential blocks with one system.



## **BluBio** BioNutrients

formulates and produces its proprietary non-toxic, organically certified microbial and bionutrient products. BluBio microbial blends are essential to our systems' success in producing 100% resuable water from waste and producing low sulfur, stabilized BioFuel from waste-grease. Our inhouse microbiologist continues to research and develop new blends customizing them for different applications, however, our signature proprietary blend is a safely registered Trade Secret with the USPTO.

Process wastewater for only I cent per gallon!

CleanBlu<sup>®</sup> smart technology integration provides an estimated annual 950-million gallon biofuel opportunity.

Save money and be green - start using CleanBlu<sup>®</sup> smart technology today!

#### **Future of Water**

Water, the source of all life, is no longer an abundant natural resource due in part to climate change, droughts and wastage. Water must be recreated, reclaimed and reused locally in order to sustain depleting global supplies. Localized wastewater treatment systems servicing small areas empower strictly controlled water management practices and have a host of smart environmental advantages.



## **CleanBlu<sup>®</sup>** Smart Cities

With more than 50% of the world's population now living in cities and urban areas the need to consider environmental impact is paramount. There are a growing number of projects globally to increase the sustainability of cities and areas that face economic hardship and where progressive governments implement new initiatives to combat climate change. Environmentally conscious developers face considerable challenges when attempting to design cities that can produce their own power with renewable sources of energy. Limiting 🗤 production of pollution, making efficient use of space available, decentralizing wastewater treatment, recycling water converting waste into energy are essential to creating the lowest possible ecological footprint.

HYDROLOGIX®

#### Integration

Using the advanced Hydrologix<sup>®</sup> Bio-Controllers our fully automated **CleanBlu**<sup>®</sup> systems integrate easily with existing and future smart city infrastructure networks, software, and smart buildings. Processing wastewater at its point of creation eliminates water depletion and increases water efficiency to 100% reuse.

Integrate CleanBlu<sup>®</sup> smart technology into your smart city and transform waste into usable water and biofuel