

**UNITED WATERS**



# BioGreen™

An award winning, clean and energy effective  
water purification solution from Switzerland



Mankind is facing a global water crisis

With continued Global population growth, mankind is experiencing declining supplies, increased dangerous contaminations and growing global demand for drinking water that is surpassing the supply available in nature. We are entering an era where access to fresh water will be fought for, prices will multiply and health costs will explode with millions of people dying every year.

## A quantum leap in water technology

In 1977 Prof. Rudolph Martinell together with a team of world leading scientists from the Royal Institute of Technology in Stockholm invented a **purely biological, natural, healthy and highly energy efficient water purification process** that has been in operation for more than 40 years across Europe, predominantly in Sweden.

**BioGreen™** is the only drinking water technology in the world that: 1) produces biological and healthy drinking water without the use of chemicals; 2) removes all major contaminants in a single step (incl. arsenic, iron, manganese, nitrate, fluoride, bacteria, viruses and microbes); and 3) produces no sludge or harmful by-products, nor corrosion or clogging.

UWI's water purification technology is the most affordable in the world consuming approximately 1% of the energy used by other common water purification technologies, saving substantial amount of energy over a 30 year period, producing the smallest CO<sub>2</sub> footprint of any water purification technology.

### KEY FACTS BioGreen™

- BioGreen™ undertakes efficient purification with up to 99% reduction for a large variety of contaminants.
- Produced in cooperation with leading Swiss and German manufacturers with a 30 year performance and production guarantee.
- Delivered in 1-3 months and ready to operate within hours from arriving on site, even in the most remote locations.
- No sludge generated with no treatment for discharge water required.
- Each BioGreen™ has the capacity to purify 2,500 m<sup>3</sup> water every 24h and several systems can be installed in one location serving up to 500,000 people.
- Containerized with secure locks to prevent tampering with the treatment systems.
- Up to 500% lower operational and financing costs over a 30 year period compared to other common products.
- Complying with EU, WHO and other international health standards.

### AWARD WINNING

In 2017, 2018 and 2019, the BioGreen™ system has been awarded the **best Water Purification Technology in the World** by Capital Finance International. The **Chinese Ministry of Water Resources** has selected United Water's water purification system amongst 28 other technologies as the best drinking water purification technology in the world to serve communes with 25,000 – 500,000 people.





## The unique biological water purification process

### ENERGY EFFICIENT

The BioGreen™ system only consumes about 1% energy compared to other conventional solutions purifying the equivalent amount of water.

### SUSTAINABLE

The BioGreen™ system uses no chemicals in the purification process and generates much less water loss compared to other conventional systems. No harmful byproducts are generated.

### FULLY AUTOMATIC

The BioGreen™ system is fully automatic with no need for an on-site operator. The system has an integrated 24/7 online remote Quality/System control.

### The most common metals and chemical elements removed by the BioGreen™ in %

Iron	> 99%	Radium	> 95%
Manganese	> 99%	Uranium	> 95%
Arsenic	> 95%	Barium	> 95%
Chromium III	> 95%	Strontium	> 95%
Cobalt	> 95%	Silver	> 90%
Barium	> 95%	Cadmium	> 80%
Lead	> 95%	Copper	> 70%
Mercury	> 95%	Fluoride	> 70%

### Other contaminations removed by BioGreen™



#### Chlorine

Chlorine added to your water supply can pose serious threats to your cardio vascular health and increases the risk of respiratory problems, such as asthma.



#### Bacteria / Viruses

Drinking water containing viruses and bacteria can cause diseases for example Cholera, SARS, Salmonella and E. Coli that will cause severe diarrhea, dehydration, fatigue, fever and can be fatal<sup>1</sup>.



#### Microbes

Untreated source water can contain Microbes that can cause diseases like Amoebiasis. If symptoms occur, they may include cramping, diarrhoea, fever and death<sup>2</sup>.

1) British Medical Bulletin (2003) John Fawell and Mark J Nieuwenhuijsen

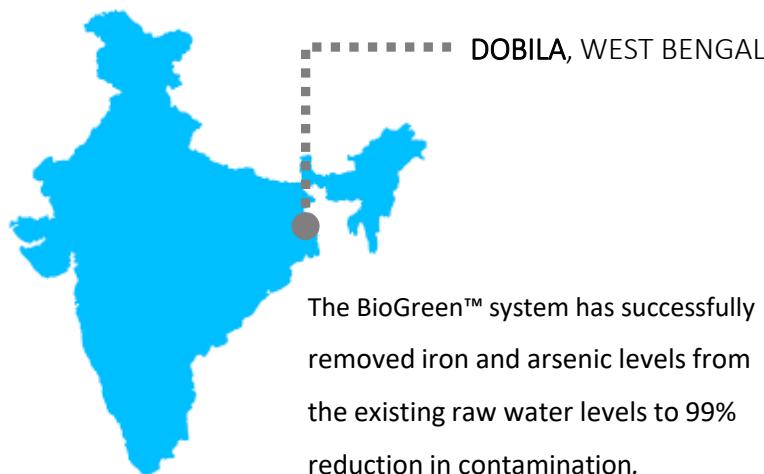
2) World Health Organization (2018)



## BioGreen™ in India

### Successful installation of the BioGreen™ system in Dobila, West Bengal

The State of West Bengal has one of the highest number of arsenic-affected people in India. United Waters recently completed an installation of the BioGreen™ system in Dobila, West Bengal. After the installation of the BioGreen™ system, the arsenic-level in the drinking water has been reduced from 0.3 mg/l down to 0.003 mg/l which is well below the WHO's guideline and India's permissible limit (0.01 mg/L). As a result, the life of thousands of villagers has been changed forever, providing them with healthy, clean, and biological drinking water.



- The BioGreen™ water purification system, fitted in a stainless customized container, was placed on a 1.50 m high concrete foundation as a security measure against the annual monsoon flooding.
- The plant removes hazardous metal contaminations, e.g. arsenic and iron as well as bacteria, viruses, and microbes. The output water has been tested by SGS, a Swiss world-leading testing company.
- The BioGreen™ system has reduced the iron levels from 12.8 mg/l to <0.1 mg/l and arsenic levels from 0.3 mg/l to 0.003 mg/l.