



What We Do

WATER TREATMENT & SUPPLY

Water is life... for both people and business. Our scalable prefabricated systems treat ground, surface, and wastewater sources to supply:

- Drinking / Domestic Water
- Industrial / Process Water
- Agricultural / Irrigation Water

SANITATION & HYGIENE

The COVID-19 pandemic has raised the awareness of global water challenges and the lack of proper sanitation. Public health conditions related to clean drinking water, and adequate treatment and disposal of human excreta and sewage, are our top priority. Our systems are designed to provide Urban, Peri-Urban, and Rural populations with proper sanitation and hygiene services.

FOOD SECURITY

We recover water and nutrients, among other resources, from wastewater for reuse and closed-loop plumbing infrastructure in agriculture and aquaculture-controlled environment operations.

IoT CONNECTED

Our Wi-Fi, Lo-Ra, and Satellite IoT Connected arsenal of digital pathogen, heavy metals and nutrient sensors make our solutions revolutionary.



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Is Your Water Charity Reinforcing Global Inequalities?

From the United Nations “WORLD SOCIAL REPORT 2020: INEQUALITY IN A RAPIDLY CHANGING WORLD, “High inequality is an ethical and moral concern across cultures around the world. Promoting equality is a common ideal, a principle that should be upheld and actively pursued. ...high and growing inequality has a range of negative impacts on well-being.”

While these words are often repeated in NGO mantras throughout the world, their actions often do not reflect the pursuit of equality. This is not to say that the intentions of NGOs and their donors are not for the best of the world's worst off, but their solutions, especially with water & sanitation infrastructure for both urban and rural populations, are often reinforcing growing global inequalities.

In business development discussions with major water charity NGOs and WLS executives, the theme that emerged was the intention of NGOs to add selective efficiencies to lower the costs of water supply and sanitation infrastructure that provide populations with stone-age era development capabilities. **The intention is to “save lives”, but the outcome is the reinforcement of global inequalities.**

The “4th Industrial Revolution” and “IoT” buzzwords were being thrown around the discussion table with the open acknowledgement from NGOs that water & sanitation infrastructure, beyond hand pumps and pits in the ground with IoT devices that measured whether the system was working or not, were not being pursued due to the lack of interest, knowledge of other alternatives, or inadequate supply chains for the other alternatives.

These technological solutions that serve to make it easier and cheaper for an underserved population to provide themselves with contributing factors that perpetuate their unequal status are also seen at the forefront of the NGO's donor solicitation and company branding campaigns. It is the position of WLS to equally provide underserved populations with our proven solutions. WLS is working with nations, NGO's and private businesses to better address these global inequalities.

<https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/01/World-Social-Report-2020-FullReport.pdf>



OUR MARKETS

INDUSTRIAL

Agriculture | Aquaculture |
Automotive | Commercial
Livestock | Disaster Management
| Environmental Rehab | Food &
Beverage | Military | Mining | Oil
& Gas | Paper & Pulp |
Petrochemical | Pharma | Power
| Specialized Industry | Steel |
Tourism

MUNICIPAL

Urban, Peri-Urban & Rural
Utilities | Commercial Buildings |
Public Facilities | Mixed-Use
Buildings | Developments | Multi-
Tenant Residences | Single
Homes

OUR GUARANTEE

Water Life Systems guarantees that you will receive enhanced security and higher quality with Water Life Systems' products and services. The service starts with customizing our solutions to your specific needs and continues through equipment delivery and life cycle maintenance. We back up what we design and manufacture to ensure that you receive complete technical and process support on-demand.



Image from <https://wwtonline.co.uk/news/desalination-underpins-middle-east-water-pact>

Some Problems With Reverse Osmosis... That WLS Solves

In the March Water Life issue, we discussed Canadian and International financing mechanisms to integrate life-saving technologies into developing nations. Not all technologies live on an equal life-saving plane.

Permeate - The term permeate is also referred to as "product" and describes the portion of the reverse osmosis feedwater stream water which passes through the RO membrane. This means that there is a high portion of the feedwater being processed by the RO system that is left over waste, or brine, usually **discharged back into the natural environment at highly concentrated levels with added heavy metals and chemical pollutants due to component corrosion and pretreatment chemical additives to increase plant performance.**¹

The brine wastewater discharged by RO plants is known to measure in volume anywhere between 50% and 10% of the feedwater introduced to the system. The world's largest RO plants that are now becoming operational with processing capacities of over 1 million cubic meters per day will produce a discharge anywhere between 100,000 and 500,000 cubic meters of polluted brine per day. A single plant will discharge enough pollution into the environment to fit into more than 178 Olympic sized swimming pools. RO suppliers might tell you that there is no environmental damage from brine being discharged

into the environment, but this is not possible with the 10's of thousands of RO plants already in operation throughout the world, and the 10's of thousands more that are seeking government guarantees to be commissioned.

Biofouling, or the accumulation of microorganisms and pathogens within RO systems, is a continuing challenge for RO system operators. Unless fully prepped, RO systems cannot process water that has high levels of sewage or pathogens, as seen in the 2019 [city of Cape Town's V&A Waterfront RO based desalination plant closure](#) due to high levels of pathogens in the feed water supply.

Legal battles between the municipal and private operator are still ongoing as the operator has filed lawsuit against the City for not providing accurate feed water samples. While accurate samples should have been provided, the water quality fluctuates with inflows of sewage from municipal treatment plants that discharge into the ocean, and the RO plant should have had in place the methodology to accommodate varying feed water qualities.

WLS in-solution Ozone generation, other low energy treatment systems, and water reuse methodologies are proven solutions to these problems with RO systems.

¹https://www.researchgate.net/publication/222683499_Chemical_Impacts_from_Seawater_Desalination_Plants-A_Case_Study_of_the_Northern_Red_Sea

SUSTAINABLE DEVELOPMENT GOALS



#WeCanSaveTheWorld

The core mission of WLS is to increase global resiliency and sustainability in water, sanitation, and food security systems.

The world's rapid population growth, coupled with rapid climate change, is increasing the competition for resources. At WLS, we're committed to doing our part to operate sustainably. Our innovative solutions provide resource conservation, energy savings, the reuse of water, food security, and better population well-being and health outcomes.

Advanced O3In-Gen™ technology is one example of WLS' focus on cost savings and increased treatment effectiveness. O3In-Gen™ is used in WLS' PureBOX™ distributed / decentralized package plants and controlled environment food production systems. The systems are ideally suited for a scalable solution to provide clean water, wastewater treatment, and food security for all by 2030 in a world where billions of people do not have access to sufficient water supply and sanitation services. We envision a world without waterborne pollution

and the abundance of freshwater for all using our water treatment and monitoring systems, which correspond most directly to the United Nations Sustainable Development Goals SDG 6 - Clean Water and Sanitation.

At WLS, we're committed achieving the United Nations Sustainable Development Goals (SDGs) by the 2030 goal date. This collection of 17 global goals is designed to be a "blueprint to achieve a better and more sustainable future for all." Our operations and solutions contribute to all the UN's SDGs.

This Issue's SDG Provided by Water Life Systems

World Economic Forum 2020: "The global water crisis is one of the greatest threats to humanity."

The "traditional" way of living is not sustainable for life on Earth. Water Life Systems leadership, in living through their own climate-caused near disasters, being Vancouver 100-year drought in 2015 and the 2017-18 Day Zero scare in Cape Town, South Africa, have developed water supply, sanitation, and food security Micro-Utility solutions that can be deployed into the built environment on a global scale. Tech components can be integrated into centralized systems.

WLS systems are at the core of providing water stressed populations with clean water and sanitation services. Currently some 2.2 billion people worldwide do not have sufficient drinking water services, 4.2 billion people do not have safely managed sanitation services, and 3 billion lack basic handwashing facilities.

Much of the world is not set to meet United Nations Sustainable Development Goals with current systems thinking. No single solution will result in universal access by 2030. A range of adaptable and scalable solutions are needed to overcome geography, gender, and socioeconomic barriers.

SDG 10

Reduced Inequalities

10.1 Target

Reduce income inequalities. By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.

10.1.1 Indicators

Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population.

10.2 Target

Promote universal social, economic, and political inclusion. By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

10.2.1 Indicators

Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities.

10.3 Target

Ensure equal opportunities and end discrimination. Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

10.3.1 Indicators

Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks by 2020.

10.7 Target

Responsible and well-managed migration policies. Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.

10.7.1 Indicators

Migration recruitment costs. Recruitment cost borne by employee as a proportion of yearly income earned in country of destination.

10.7.2 Indicators

Well-planned migration policies. The number of countries that have implemented well-managed migration policies.

Partnership Tracks

WLS offers various partnership solutions including:

- Integrated product distribution
- Individual tech component licensing
- Complete tech transfer programs for national solution integration

Technical expertise, geography and solution area of your business will determine which track best fits your business model. Partners can participate in one or more tracks, based on expertise and available production facilities.

[Click here for more information and to complete the application](#)

Would you like to participate in the WLS Investor & Partner Program? Please fill out the application to help us determine how to best approach the partnership to ensure mutual success.

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For More Information

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Water, Sanitation & Food Security