Stop Arsenic in Drinking Water  
the Largest Mass Poisoning in History

200 Million people drink arsenic contaminated water

Out of 200 million, 36 million will develop a cancer of some form. 
After our water treatment, we will reduce the cancer incidents by 98.6%.

Public Health Catastrophe
200 million historically marginalized people around the world are being poisoned by toxic levels of naturally occurring arsenic in the groundwater they depend on for drinking. Chronic arsenic poisoning has no cure. Its effects include debilitating disabilities, internal cancers, and death.

Arsenic poisoning disproportionately affects vulnerable populations in poor rural areas, including women, children, and the most socioeconomically disadvantaged.
• Malnourished individuals -- the truly poor -- tend to develop earlier and more severe symptoms of arsenicosis than their more affluent counterparts.
• Chronic arsenic exposure reduces children’s cognitive development and intellectual functioning.
• People with symptoms of arsenic poisoning often suffer extreme stigmatization and social exclusion, such as young married women in India being returned to their parents.

Our Goal: End mass arsenic poisoning via safe drinking water
We will end this mass poisoning by scaling an effective arsenic-removal technology with a solid business model. We have invented and successfully piloted ECAR (ElectroChemical Arsenic Remediation) to provide poor rural communities with safe, affordable drinking water. ECAR works under even the harshest conditions and purifies water locally. It generates sufficient revenue for ongoing operation and sustainable expansion while improving communities’ health and standard of living.

ECAR Team
Innovators in engineering and social science at the water-energy nexus, our team is driven by a shared passion to alleviate poverty and human suffering. Team leader Dr. Ashok Gadgil is a well-known inventor and the Distinguished Chair Professor of Safe Water and Sanitation at UC Berkeley. Jadavpur University, based in India, will provide crucial expertise on social placement that will help gain acceptance and integrate ECAR in a culturally-appropriate manner. Our industry partners, who will help with implementation, have extensive experience building and operating distributed, community-scale water delivery systems in rural India. The core team has worked together for more than six years building and operating ECAR, which now serves more than 5,000 people in West Bengal.

Our Team:
Our team: UC Berkeley (lead), Jadavpur University, Livpure, Sarvajal, and WaterLife
Scale up plan
With a $10 million investment, we can install and operate 100 ECAR plants to provide safe, affordable drinking water to 500,000 people within three years, starting in South Asia where the problem is most acute. Our focus on community awareness, consistent usage, monitoring, and timely maintenance will establish the self-sustaining infrastructure to permanently eliminate water-based arsenic poisoning in these 100 communities. As we scale up, our operations will achieve the financial viability and community enthusiasm needed to cross the adoption tipping point to end what the World Health Organization has called “the largest mass poisoning in recorded history.”

The Time Is Now
For the first time in 25 years, we have a proven, rapidly scalable technology to address arsenic poisoning from groundwater. Demonstrating the durability, effectiveness, and financial viability of 100 new ECAR plants will unlock further resources for growth. These include potential funding from the pool of INR 8 billion (~USD $120M) released by the Indian Central Government in 2016 to the affected States for community-scale remediation of arsenic and fluoride from drinking water. In the absence of a demonstrated solution, these funds have remained mostly untapped. Access to this capital, as well as the inflow from corporate-social-responsibility funds required in India, will allow industry to continue building, operating, and improving ECAR plants in the most affected regions once the success of the first 100 plants has been demonstrated. Ultimately, ECAR’s built-in mechanism for financial sustainability will attract public and private investments to construct the additional 40,000 plants needed to serve the 200 million people worldwide living in communities currently suffering from arsenic poisoning.

“Schoolchildren in West Bengal collecting water from an ECAR plant. Over 3,000 students and school staff have been served since 2016. During scale up, we will prioritize installing plants on or near school campuses”

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