

THE DROPLET

'ARTISANAL WATER FOUNTAIN'



*How aesthetically-pleasing, reverse osmosis (RO) refill stations can provide healthy & excellent-tasting drinking water to everyone throughout the Maldives. All while **eliminating the plastic bottle waste problem** in the capital city of Male, throughout resorts and in the marine environment.*



The Droplet

These 1.25m (4ft) works of art are made from recycled aluminium cans to house an artisanal water fountain (*smaller prototypes shown left*). While they look like beautiful sculptures reminiscent of Chicago's famous 'Bean', each unit has a practical function as well. They double as a pure water fountain, using reverse osmosis filtration system, to deliver the best quality drinking water anywhere.

Water filters are located inside the unit's base (*accessible by a hatch*) with a sensor located at the neck (*opposite the water spout opening*). Just hold a hand a few centimetres from the sensor to trigger a beautiful flow of chilled, clean drinking water.

This contactless water delivery system keeps the exterior surface clean and hygienic, so only pristine water flows out into reusable water bottles. An additional mineral filter can easily be added to each unit, to enrich the drinking water with essential minerals that provide a superior taste and added health benefits.

Eliminating plastic water bottle consumption (‘Turn off the Tap’ Alternatives)			
Description	Each Makers Place could manufacture one Droplet ‘artistic’ RO water refill stations per day	How it would work	Location
50 water refill stations in Male + Sell further units to resorts , to provide their visitors with the most superior drinking water available anywhere.	Two new Makers Places could be setup close to existing aluminium-recycling stations. Makers Places are the ground up design of the Distil Ennui Studio, who successfully installed and trained the team for Makers Place in 2021, Baa Atol Maldives. The facility has been successfully operated since that time.	Each Makers Place could manufacture one Droplet ‘artistic’ RO water refill stations per day. Manufactured by locals utilising recycled, aluminium drinks cans that are otherwise waste.	Install 50 units throughout Male (airport, schools, universities, parks, near shops) to provide superior drinking water to that found in plastic bottles. Using The Droplets in resorts could increase profit margins on water sales and reduce reliance on imported, plastic bottles.
Provide ‘Life Can’ souvenir water bottles to every tourist for use while visiting the Maldives, to give access to The Droplet drinking water throughout their stay In Male and resorts.	Makers Places could also produce reusable water bottles from waste aluminium (cans), for use throughout tourists’ entire stay. These would give each visitor access to the pristine waters from The Droplets anywhere they venture throughout the country.	Use the tourist tax to fund the production of these bottles, which can be kept as a souvenir after leaving the Maldives. It would also help encourage a change of habit from buying water in plastic, to a refill mentality.	Male Airport: Hand LifeCans out to tourists upon arrival. These locally manufactured, aluminium water bottles could even be branded to feature indigenous marine creatures on the side. Some colour differentiation or branding would be necessary for larger groups.



How do they work?

Reverse osmosis (RO) filters remove all contaminants, nanoplastics and PFAS (forever chemicals) from water supplies, including smelly chemicals like chlorine. A pump forces the water through a membrane that only allows hydrogen and oxygen to pass through. An added mineral filter adds necessary trace minerals back into the water for taste and health benefits.

Why switch to RO filters?

These simple RO filtration systems are capable of providing the purest water available, which branded bottled water companies can no longer claim. Recent research has shown these plastic bottles release harmful microplastics and other chemicals into the drinking water, especially when heated and/or exposed to UV rays. In addition, many brands have been found to use tap water, which undermines their ‘purity’ perception. The biggest added benefit is elimination of plastic bottle waste, which has been a scourge to the Maldives.

Why use The Droplets over standard water fountains?

These units have been designed to utilise recycled, aluminium waste from the tourism industry while employing local workers. Each unit would provide a futuristic, artisanal fountain experience making it fun to use. Because drinking the purest, chilled water from a ‘sculpture’ should be a memorable experience for everyone!



<https://www.distilennui.com/journal/reverse-osmosis-public-water-drinking-station-shaped-like-a-water-droplet-new-functional-public-sculpture.html>

LifeCans:

These reusable, aluminium drinking bottles can be manufactured with either in a single or double-walled design, with a cellulose lining to comply with global food safety standards. Up-cycling of used aluminium drinks cans into this product aligns with the existing **Waste to Wealth** initiative in the Maldives. Production of these bottles could be scaled to the national level for Maldivian citizens and incoming tourists (1.8m visitors in

Learn more: <https://www.distilennui.com/journal/life-can-designed-to-create-personal-water-bottles-from-recycled-aluminium-refilled-from-filtered-water.html>

Makers Places:

50 units of **The Droplets** and tourists **LifeCans** would be manufactured in two new Makers Places, located ideally near recycling centres, while employing local, skilled workers in this tiny-scale operation.

Learn more here:



SPECIFICATIONS	The Droplet (fountains)	LifeCans (water bottle)
Flow (time to refill a bottle)	1 litre 20 seconds	500ml 10 seconds
Capacity to filter/hr	165 litres per hour including automatic flush cleaning time, larger flow capacities are available	
number of 500ml bottles that can be refilled/day per Droplet	nearly 8,000/day	nearly 5,000 tourists move through Male Airport on average
maintenance issues	every 8 weeks replace the particulate filter	
solar panel for standalone Droplets (optional)	pump & chilling unit	



The Maldives

ESTIMATED PROJECT COSTS:

Maker's Place - US\$100,000

Manufacturing 50 Droplets for Male - US\$160,000

LifeCans manufacturing equipment - US\$300,000



Case Study - Venice, Italy:

Venice is a world-renowned tourist destination with over 5.5 million tourists/year that inundate the small city with 50,000 inhabitants. Plastic water bottles are hard to distribute along canals, store in tiny buildings and create a big waste disposal problem (especially being on the water). Many local restaurants and hotels are voluntarily switching to in-house water filtration in reusable, glass bottles. These provide superior-quality drinking water, eliminate storage & disposal problems and allow owners to make a higher margin on bottled water. Chilled and carbonated water is an added bonus. One company supplying a number of restaurants in Venice is: www.cosmetal.com

For more information about this proposal, including financials please email:

contact@hiddenplastic.org

Written by Diahann Hughes Hawkins Research by: Hidden Plastic

In partnership with Alexander J Hamilton of Distil Ennui Studio (distilennui.com)