

**BEYOND  
PLASTIC**

# TAKE BACK THE TAP

## DRINKING WATER IN BERMUDA

A little change makes a BIG difference.



Take Back the Tap campaign is sponsored by:

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## Take Back the Tap – How to Use Your Own Water Safely

### Introduction

Over the last five years, Bermuda has imported over 15 million litres of drinking water worth over \$7 million, and a considerable amount of this water comes in plastic bottles. \$7 million however, is only the declared customs value. When we buy this water from shops or restaurants, we pay more.

On average, a litre of plastic bottled water from a supermarket costs around \$3.14. Since 2019 therefore, Bermuda consumers have spent over \$47 million on a product that falls from the sky, for free.

This is a huge amount of money to be spending on a natural resource we all have sitting in our tanks, or have access to via piped water systems, which are a fraction of the cost of buying bottled water. This is not just a financial waste, but a physical waste too. Plastic cannot be recycled in Bermuda. All these plastic bottles will end up in our incinerator, or littering our island.

Furthermore, the quality of this water is not as good as the salespeople from these huge corporations would have us believe. Recent studies have shown that many contain micro and nano plastics<sup>1</sup>, and if these water bottles have been left in the heat or direct sunlight for any period of time before reaching our supermarket shelves, the contents could actually be harmful to our health<sup>2</sup>.

Buying bottled water therefore, is a huge and unnecessary expense, especially when you consider that Bermuda's roofs and rainwater catchment system have been hailed as "civil engineering masterpieces"<sup>3</sup>. And, water is more plentiful than it used to be thanks to desalination and reverse osmosis systems.

It's time to stop buying what we don't need. It's time to take back our taps.

Many in Bermuda have concerns about the quality of their tank water, however there are a wide variety of options, at different price points, that make it as safe, and maybe even safer, to drink than bottled water.

To help you take back your tap, *Beyond Plastic Bermuda* has spoken to government scientists, water experts and filtration companies. Through our interviews and research, we have discovered exactly what contaminants are in our tank, trucked and piped water. We sought advice about how to minimise water contamination, ensure safe water treatment and implement effective filtration systems that can remove all these contaminants from your tank water, before you drink it.

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<sup>1</sup> <https://www.publichealth.columbia.edu/news/bottled-water-can-contain-hundreds-thousands-nanoplastics>

<sup>2</sup> <https://www.nationalgeographic.com/environment/article/exposed-to-extreme-heat-plastic-bottles-may-become-unsafe-over-time>

<sup>3</sup> <https://www.eit.edu.au/bermudas-400-year-old-water-engineering-secret/>

And, we discovered that the cost of buying plastic bottled water is uneconomical, bad for the environment, bad for us, and unnecessary if you have the right water filters for your tank situation.

Bermuda, we want you to enjoy drinking your tap water again.

### **What is in our Tank Water?**

Our tank water is stored rainwater, meaning that it may need some sort of treatment or filtration before it's safe to drink. However, this is also common practice in the bottled water industry, and some companies, such as Coca-Cola and Pepsi<sup>4</sup>, simply bottle tap water.

The most common contaminant found in Bermuda's tank water is microbial, however chemical compounds have also been tested for, especially in the area around BELCO.

### ***Microbial contaminants***

The most common microbial contaminants found in Bermuda's tank water are coliform bacteria including Escherichia coli (E. coli) bacteria. According to the Ministry of Health, 66 percent of Bermuda's residential tank water contains E. coli and 90 percent of residential tank waters have been found to contain coliforms, which, they say, are not necessarily of health significance, but are used internationally as a measure of water quality<sup>5</sup>.

Coliforms are a group of bacteria commonly found in the environment, such as in the soil or vegetation, as well as in animal intestines. Having coliform bacteria in your water tank does not necessarily cause illness, but their presence indicates that your water supply may be vulnerable to contamination by more harmful microorganisms, such as strains of E.coli, viruses, and parasites.

The reasons why a tank can become contaminated by total coliforms and E. coli are:

- Improperly treated water tanks
- Stormwater runoff
- Soiled and contaminated roofs
- Waste from domestic and/or wild animals such as bird and lizard faeces washed from the roof.

### ***Chemical compounds***

In recent years, there have been studies undertaken by, or on behalf of, government to address potential concerns about emissions from BELCO, as well as the Tynes Bay waste to energy facility, and the impact this may be having on the tank water of those living close by.

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<sup>4</sup> <https://www.latimes.com/business/story/2021-09-28/bottled-water-is-really-just-tap-water>

<sup>5</sup> Safe Tank Water, Guidance Document W01: <https://www.gov.bm/sites/default/files/Safe%20Water%20-%202017.pdf>

Since BELCO's North Power station was commissioned in March 2020, there have been regular studies on the tank water of properties in the power plant's vicinity, as well as other 'control' tanks, which are a greater distance from BELCO, but adjacent to busy roads. These include the Marine & Ports Mooring Buildings in Paget and the Shorelands Building in Flatts.

Funded by BELCO, the Bermuda Institute of Ocean Sciences (BIOS) was the third party managing the sampling process, assisted by the Pollution Control Section (PCS) of DENR. The first study done after the North Power Station started operating was in October 2020.

The samples were tested at Bureau Veritas Laboratories in Bedford, Nova Scotia, Canada and they were compared to UK Water Supply Regulations 2016, US National Primary and Secondary Drinking Water Regulations and the World Health Organisation (WHO) drinking water guidelines 2017.

Further analysis was done in 2021 and then again in 2022 and 2023. Once again, this was conducted by BIOS.

The latest study<sup>6</sup> assessed 17 residential properties, two government offices and a government water depot in November 2022, with a second round of sampling undertaken at some of the properties in February 2023. The water samples were analysed for total dissolved solids (TDS), total suspended solids (TSS), pH, 31 metals and 21 polycyclic aromatic hydrocarbons (PAHs).

According to these water sampling reports, which are available on the BELCO website<sup>7</sup>, combustion-related compounds measured in tank water were typically present in quantities below the most stringent drinking water standards.

The secondary drinking water standard for aluminium was exceeded at three locations. The water at one of these locations also exceeded the secondary drinking water standards for iron and for manganese. No other primary or secondary drinking water standards were exceeded.

Primary drinking water standards are the most important, as those protect human health. Secondary drinking water standards relate to how the water looks and tastes.

Where the secondary drinking water standards were exceeded, it was because of higher than standard quantities of aluminium, iron or manganese. Aluminium could be present because of soil, which contains alumino-silicate minerals, in the water tank or because the aluminium fittings may have corroded. Drinking this water could cause personal cosmetic effects such as skin or tooth discoloration, or aesthetic effects such as taste, smell or clarity of the water.

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<sup>6</sup> <https://belco.bm/safety-and-environment/>; Pembroke Water Sampling Report 2022 - 2023

<sup>7</sup> <https://belco.bm/safety-and-environment/>

High concentrations of iron could be because of rust particles, corrosion of plumbing or pipe fixtures or because of local soil. Too much iron could result in the tank water having a metallic taste or leave reddish-brown staining on water fixtures and laundry.

Manganese is a common, naturally-occurring mineral metal found in rocks, soil, groundwater and surface water. Higher levels of manganese could result in metallic tasting water or black staining on water fixtures.

Although these studies did not find any exceedances of primary drinking water quality standards, it is known from the 2020 Pembroke Water Sampling Report and the Bermuda Water Sampling Report 2005<sup>8</sup> that tank sediment contains the majority of combustion-related contaminants. Sediment usually collects at the base of the water tanks, but it can be disturbed temporarily and mix with tank water during periods of heavy rainfall or when water from a trucker is pumped into a tank with low water levels.

According to DENR, what currently isn't known is whether the concentration of potential pollutants in water with relatively high levels of temporarily suspended sediment would be above drinking water standards. The risk here is that suspended sediment could potentially be collected via the foot valve in the water tank and be released into the tap water.

DENR is currently assessing the potential risks from sediment temporarily suspended in the water tank during periods of heavy rain or water truck delivery while the water tank is largely empty and there is a greater risk of turbulence<sup>9</sup>.

In light of what they know about the quality of Bermuda's tank water and the worst-case scenarios, we asked Dr Geoff Smith, Environmental Engineer, and Dr Shaun Lavis, Hydrogeologist, at DENR if they would still drink the water from their tanks:

Dr Smith: "I do filter at point of use with micro and nano filtration, and then activated carbon. Just as a precaution, and it makes the water taste nicer."

Dr Lavis: "I have no problems drinking tap water from the tank. We have a Brita filter. It's definitely cheaper for me to do it that way than it is to buy bottled water." He did add though, that when he has water deliveries, "I recommend we don't drink the water for a while until everything's settled."

### **How to get your water tested**

Before you decide how to treat and filter your water, you need to know what is in it. The Ministry of Health offers two types of water testing service, bacterial and chemical.

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<sup>8</sup> <https://belco.bm/safety-and-environment/>; Pembroke Water Sampling Report 2005

<sup>9</sup> Envirotalk, Spring 2021, Volume 85 No. 1: <https://static1.squarespace.com/static/501134e9c4aa430673203999/t/6058b5c0ffa8c564677fa226/1616426436324/85.1+Envirotalk+Spring+2021.pdf>

Bacterial testing looks for total coliforms, which indicates if the water has been disinfected adequately, and E. coli, which indicates if the water is contaminated by bacteria of faecal origin.

Chemical testing looks for chloride, hardness, nitrate and pH that can indicate whether water is rainwater, well water or piped water. They can also indicate whether water has been contaminated by alkaline based paints used for painting and sealing roofs and tanks.

Each test costs \$34<sup>10</sup>, which includes the sample kits. For more information on the government's water testing process, contact Environmental Health on 278-5333.

There are also some private companies that will conduct water testing and analysis, including:

- Bermuda Environmental Laboratories, 293-2355
- Water Now, 504-5555

### **Roof and Tank Cleaning and Maintenance**

Cleaning and maintenance of tanks, roofs and the pipes in between can help prevent microbial contaminants, and the build-up of sediment.

#### ***Check, clean and maintain your tank***

By law, tanks should be cleaned every six years, but the Ministry of Health also advises cleaning it "as often as necessary to prevent sediment accumulation"<sup>11</sup>.

For an accurate picture, make sure nothing has recently disturbed the water, such as heavy rainfall, before you check your tank.

If your water is low, this is a good opportunity to have your tank cleaned. Firstly, because you are not wasting much water, but secondly, from a health perspective, refilling a dirty, relatively empty tank, will stir up the sediment, which could make the water, temporarily unsafe to drink.

All overflow pipes should be four inches above ground and screened with fine mesh wire. The tank top should also be tight fitting and kept free of contamination sources.

If the water tastes flat or if there is little turnover, aerate it by setting your garden hose nozzle on fine spray and directing it onto the surface of the tank water. Allow at least six hours for ample turnover<sup>12</sup>.

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<sup>10</sup> Accurate at time of writing in March 2024.

<sup>11</sup> Safe Tank Water, Guidance Document W01: <https://www.gov.bm/sites/default/files/Safe%20Water%20-%202017.pdf>

<sup>12</sup> Safe Tank Water, Guidance Document W01: <https://www.gov.bm/sites/default/files/Safe%20Water%20-%202017.pdf>

### ***Keep your roof clean***

Keeping your roof clean will help reduce the number of contaminants entering your water. To do this, the Ministry of Health recommends the following:

- Trim any overhanging trees to prevent leaves entering the tank.
- Cover rainwater down pipes with wire screens, known as “pineapples” and clean these to remove debris.
- Keep your roof clean and painted. Tightly seal all rain water down pipes when cleaning and painting the water catchment. Do not remove them until after the first rain shower.
- Clean the roof by power-washing or using a wire brush to remove old paint and fungal growth.
- Before applying paint, wash the roof with a 50/50 solution of regular unscented bleach and water and then apply an approved roof catchment paint<sup>13</sup>.

### **Topping up Your Tank: Water Options and Where it Comes From**

An estimated 60 percent of our potable water comes from rainwater harvesting, with the remainder coming from either seawater or groundwater reverse osmosis<sup>14</sup> (RO). The latter is distributed either via Bermuda Waterworks or the various water trucks.

*Bermuda Waterworks:* Water supplied by Bermuda Waterworks, also known as Watlington Water, is a blended product made at their two reverse osmosis plants in Devonshire. The North Shore plant desalinates seawater, and the Parsons Lane plant desalinates brackish water from the underground lens.

When asked if their water was safe to drink, Bermuda Waterworks COO, Karlene Kelly, said: “Our utility water is safe to drink. However, our water does contain chlorine which is used as a mandatory disinfecting agent. Its use is required to make it safe and we have to ensure that there is a residual level that extends through our pipelines and up to the extreme ends of our network in parts of Somerset.” Chlorine can be removed from drinking water using a carbon filter.

She also added that the utility water is tested daily, as well as weekly by an approved local laboratory and annually by a US based laboratory. She did point out however that they have “no control over the condition and cleanliness of a clients water tank. Once our water is added to their tank, the composition will change.”

The minimum connection fee to Bermuda Waterworks is \$850 if the property is close to, or on an existing pipeline.

*Water Trucks:* Bermuda’s water trucks get their water from a variety of public and private water sources and therefore include rainwater as well as water that has been filtered using

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<sup>13</sup> Safe Tank Water, Guidance Document W01: <https://www.gov.bm/sites/default/files/Safe%20Water%20-%202017.pdf>

<sup>14</sup> <https://www.linkedin.com/pulse/lessons-from-bermuda-conversation-shaun-lavis-island-city-lab/>

reverse osmosis. This water also has to be chlorinated according to Ministry of Health specifications. Chlorine can be removed before drinking by using a basic carbon filter.

***Never use well water to top up your tank. This is not safe to drink, even when filtered.***

## **How to Treat and Filter Tank Water**

### ***Chlorination***

Bacteria in tank water can be treated through periodic chlorination. The Ministry of Health recommends using 4oz of household bleach per 1,000 gallons of water. The formula for calculating the volume of water is *length (ft.) x width (ft.) x depth (ft.) of water x 6.25 = No. of gallons.*

Only chlorinate if the water is clear and the tank is relatively free of sludge. Dosing the tank periodically with bleach only provides disinfection for a very short period of time – a few days depending on the level of contamination and rainfall<sup>15</sup>.

### ***Boiling***

If you are concerned about your water and are awaiting water testing results, boiling water will kill microorganisms. You must keep water at a rolling boil for five minutes.

### ***Reverse Osmosis***

Reverse Osmosis, or RO, uses pressure to squeeze water across a semi-permeable membrane to remove salt and other impurities such as bacteria, only allowing fresh water through. The membrane acts like a screen door that allows fresh air into a home, but keeps out the bugs. Smaller RO systems can be installed to filter water at its point of use in a household.

### ***Filtration***

*Sediment filters* remove dirt and debris from your water and whole house sediment filtration, installed at the point of entry, also protects all the water-based appliances in your home from suffering the consequences of sediment build up, including washing machines, plumbing fixtures and dishwashers.

Sediment filters do not, however, remove chemicals, heavy metals, bacteria or dissolved particulate matter. They are a defensive and preservative filtration method only and should be used in conjunction with other filtration methods such as reverse osmosis, UV purification or a carbon filter.

*UV purification* systems neutralise bacteria, parasites and microorganisms via germicidal ultraviolet wavelengths. UV light damages the DNA of these living organisms so they are unable to reproduce. A UV system requires a sediment pre-filter of five microns for maximum performance.

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<sup>15</sup> Safe Tank Water, Guidance Document W01: <https://www.gov.bm/sites/default/files/Safe%20Water%20-%202017.pdf>



*Micro filtration* is moderately effective in removing bacteria, but is not effective in removing viruses or chemicals. It should therefore be used in conjunction with a nano filter<sup>16</sup>.

*Nano filtration* is very effective in removing bacteria as well as viruses but is only moderately effective in removing chemicals<sup>17</sup>. It should therefore be used in conjunction with a carbon filter.

*Carbon filters* remove contaminants through absorption, soaking up particles like a sponge. They also make the water look and taste fresher. They can remove aluminium, chlorine, chloramines, sediment and certain trace metals including nickel and other chemical contaminants found in some of Bermuda's water tanks. They can also remove pesticides and herbicides.

There are a variety of household filtration systems available that incorporate sediment, carbon and UV filtration, as well as nano/micro filtration, ensuring that your drinking water is free of all common contaminants as long as they are correctly maintained and the filters changed when needed. This is usually every six to 12 months depending on how much water the household uses.

The most popular and easy to use household, or office, filtration systems are Point of Use (POU) and Point of Entry (POE) systems and the major supplier of these in Bermuda is ClearWater Systems<sup>18</sup>. They have been working in the water treatment field for nearly 30 years and specialise in making Bermuda's tank water safe to drink.

*Point of Use* is the solution if you are only concerned about clean, fresh and safe drinking water. This can go underneath a kitchen sink and is typically a RO drinking water system. A RO system can eliminate high levels of coliform and E. coli. There are a number of different options out there, but the *Bluewater Spirit*, on demand system, is recommended by ClearWater Systems, as it can produce up to 40 gallons per hour and there are options to attach an ice machine, a water machine on a fridge, and a drinking water dispenser with hot, cold and sparkling water options.

For a smaller, simpler POU system, they recommend the *Watts Kwik Change 100*. These POU systems have a sediment filter, a pre carbon filter to remove chlorine, the RO membrane and then a final carbon filter that cleans and clarifies the water.

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<sup>16</sup> [https://www.cdc.gov/healthywater/drinking/home-water-treatment/household\\_water\\_treatment.html#:~:text=Nanofiltration%20has%20a%20very%20high%20effectiveness%20in%20removing%20bacteria%20\(for,moderate%20effectiveness%20in%20removing%20chemicals.](https://www.cdc.gov/healthywater/drinking/home-water-treatment/household_water_treatment.html#:~:text=Nanofiltration%20has%20a%20very%20high%20effectiveness%20in%20removing%20bacteria%20(for,moderate%20effectiveness%20in%20removing%20chemicals.)

<sup>17</sup> [https://www.cdc.gov/healthywater/drinking/home-water-treatment/household\\_water\\_treatment.html#:~:text=Nanofiltration%20has%20a%20very%20high%20effectiveness%20in%20removing%20bacteria%20\(for,moderate%20effectiveness%20in%20removing%20chemicals.](https://www.cdc.gov/healthywater/drinking/home-water-treatment/household_water_treatment.html#:~:text=Nanofiltration%20has%20a%20very%20high%20effectiveness%20in%20removing%20bacteria%20(for,moderate%20effectiveness%20in%20removing%20chemicals.)

<sup>18</sup> Clearwater.bm

There are also a number of POU, under the sink systems incorporating micro, nano and carbon filtration, as well as replacement cartridges, available, at the time of writing, to buy on Amazon.

*Point of Entry* systems are installed in your pump room and filter all the water entering the house. This doesn't just give you safe drinking water, but also protects all your water-based appliances. Popular in Bermuda is the Viqua IHS22-E4, which incorporates sediment, UV and carbon filtration. As long as these are maintained, with the filters changed when needed, they can release safe water from every tap in the home.

*Water filter jugs:* The most common water filter jug is the Brita water filter. This is a carbon filter, which can remove chlorine and particles from the water. What a Brita filter can't do however is remove bacteria such as E. coli. If you want to rely on a water filter jug, therefore, it's important that the home's roof and tank are correctly cleaned and maintained.

*Refrigerator water dispensers:* An alternative to a water filter jug, water and ice dispensers in fridges also use a carbon filter and will often have a light alert system reminding you when to change the filter.

Filtration systems are most effective when well-maintained and users must remember to change the filters when needed. How often you need to change them depends on how much water the household uses. For POU and POE systems, the filters usually need to be changed every six to 12 months. For water filtration jugs, filters usually need to be changed every three months.

### **The health cost of water from plastic bottles**

While many bottled water companies promote a healthy image, using images of sleek athletes, mountains, waterfalls, lush greenery and vibrantly coloured flowers in all their marketing, a recent study by Columbia University, published in January 2024, found that on average, a litre of bottled water contained around 240,000 detectable plastic fragments<sup>19</sup>.

Many of these fragments, the study explained, are nanoplastics, which are microplastics that have broken down. Unlike microplastics, however, the study said that "they can pass through the intestines and lungs directly into the bloodstream and travel from there to organs including the heart and brain." These particles can even pass through the placenta and into the bodies of unborn babies.

Some of the plastics found included polyethylene terephthalate (PET), which is what many water bottles are made of, polyamide, polystyrene, polyvinyl chloride and polymethyl methacrylate.

Why is this so bad for us? It is bad because, warns Bermudian endocrinologist, Dr Annabel Fountain, the chemicals found in plastic contain endocrine disrupting chemicals (EDCs),

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<sup>19</sup> <https://www.publichealth.columbia.edu/news/bottled-water-can-contain-hundreds-thousands-nanoplastics>

which are linked to diabetes, obesity and a wide variety of fertility issues. What's worse is that these can be passed onto our children in utero<sup>20</sup>.

People are also at risk from the chemicals in the plastic bottles themselves. Writing in the *Royal Gazette* last year, Dr Fountain explained that two of the most common chemicals used in the manufacture of plastic are EDCs. These are bisphenol A (BPA) and phthalates. And, while some plastic products are printed with the prominent announcement "BPA-free", this does not mean they are safe, because other, less well-known EDCs are still permitted for manufacturers to use instead, such as bisphenol F or bisphenol S<sup>21</sup>.

If a plastic water bottle is left in the sun or a warm car, these chemicals can leach into the water you are intending to drink. When you buy a plastic bottle of water from a fridge or cool shelf, there is no guarantee that it has been kept at the right temperature throughout its life cycle.

### **Plastic water bottles: The environmental cost**

Burning fossil fuels – coal, oil and gas – is the largest contributor to global climate change and accounts for over 75 percent of global greenhouse gas emissions and nearly 90 percent of all carbon dioxide emissions<sup>22</sup>. Over 99 percent of plastic is made from chemicals sourced from fossil fuels<sup>23</sup>.

Worse, it's not just in their manufacture that plastic bottles pollute. According to the Columbia University study, worldwide plastic production is approaching 400 million metric tons a year and more than 30 million tons are dumped yearly in water or on land. Plastic sheds particles while still in use and simply divides and redivides into smaller and smaller particles of the same chemical composition<sup>24</sup>.

In Bermuda, plastic water bottles cannot be recycled, regardless of what is says on the label. Even in countries with plastic recycling facilities such as the United States, only one in six are actually recycled<sup>25</sup>.

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<sup>20</sup> <https://www.royalgazette.com/opinion-writer/opinion/article/20230713/chemicals-in-plastic-are-reducing-sperm-count/>

<sup>21</sup> <https://www.royalgazette.com/opinion-writer/opinion/article/20230713/chemicals-in-plastic-are-reducing-sperm-count/>

<sup>22</sup> <https://www.un.org/en/climatechange/science/causes-effects-climate-change#:~:text=Fossil%20fuels%20-%20coal%2C%20oil%20and,they%20trap%20the%20sun%27s%20heat.>

<sup>23</sup> <https://www.ciel.org/issue/fossil-fuels-plastic/>

<sup>24</sup> <https://www.publichealth.columbia.edu/news/bottled-water-can-contain-hundreds-thousands-nanoplastics>

<sup>25</sup> [https://www.businessinsider.com/bottled-water-facts-science-healthy-2017-4?utm\\_content=buffer1bb19&utm\\_medium=social&utm\\_source=facebook.com&utm\\_campaign=buffer-bi&r=US&IR=T/#you-might-be-thinking-hey-at-least-the-bottles-get-recycled-right-wrong-for-every-six-water-bottles-americans-use-only-one-makes-it-to-the-recycle-bin-20](https://www.businessinsider.com/bottled-water-facts-science-healthy-2017-4?utm_content=buffer1bb19&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer-bi&r=US&IR=T/#you-might-be-thinking-hey-at-least-the-bottles-get-recycled-right-wrong-for-every-six-water-bottles-americans-use-only-one-makes-it-to-the-recycle-bin-20)

We do have our incinerator, but by incinerating plastic water bottles, we are simply releasing pollutants back into the atmosphere. For every tonne of dense plastic burned, more than two tonnes of CO<sub>2</sub> is released into the atmosphere<sup>26</sup>.

Every time someone buys a plastic water bottle, they are contributing to climate change.

### **Plastic water bottles: The monetary cost**

On average, a litre of plastic bottled water costs around \$3.14<sup>27</sup>. If you are buying one litre per day, that adds up to \$1,142.96 per year. Adults are advised to drink around three litres of water per day, with more in the summer, so if you are relying on plastic bottled water alone, the cost will be at least threefold, per person.

These costs were calculated based on litre or 1.5litre bottles. If you are buying smaller bottles, the cost per litre will likely be even higher and, so will the damage you do to the environment.

Reduce that cost. Invest in your tank, your filtration and plastic bottle alternatives.

### **Plastic Bottle alternatives**

*Reusable water bottles:* The most cost-effective alternative to buying single-use plastic bottles are reusable water bottles. They are available to buy in so many different shops all around Bermuda, and come in all shapes, sizes and colours. They can also last for years. Bottles made from stainless steel are ideal for summer as they can keep your water cold all day.

*PureWater:* Another drinking water option that is more cost effective than buying single-use plastic water bottles daily, is PureWater. Produced by Bermuda Waterworks, this water has been processed by RO at their North Shore plant and chlorinated before being fed into their Devonshire plant where it is de-chlorinated, softened and distilled. This distilled water is then used to fill up three- or five-gallon re-usable bottles, which can be attached to a water cooler.

Prices for PureWater are:

- Five Gallon (when returning an empty):
  - 24-hour vending machine - \$13.15
  - Drive through - \$14.30
  - Home delivery - \$17.35
  
- Three Gallon (when returning an empty):
  - 24-hour vending machine - \$8.05

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<sup>26</sup> <https://www.greenpeace.org.uk/news/incineration-burning-plastic-crisis/>

<sup>27</sup> Based on bottled water prices at Supermart in Hamilton, Warwick Lindos and MarketPlace ModernMart in Paget on Saturday 16<sup>th</sup> March 2024

- Drive through - \$9.10
- Home delivery - \$12.75

While these are, unfortunately, plastic, they are not single-use plastic and are therefore less costly, both financially and environmentally.

*Glass, Tin, Aluminium:* When you really need to buy water in a single-use container, glass, tin, or aluminium are not only better choices for your health, but also for the environment because they can all be recycled. Avoid cardboard boxed water, as that is lined with plastic.

### **Conclusion**

Water catch in Bermuda is one of the few genuinely sustainable things that we do here, and other countries around the world look at Bermuda as a pioneer. It is something we should be proud of. If you care about your health, your family's health and your environment, please stop using single-use plastic water bottles, and invest in clean tanks, clean roofs, water filters and reusable bottles instead.

Save money, help save our environment, drink your tap water.