

Reuse Refill and Reduce

The eco-logical way to drink water



Reuse a bottle

Refill your H2O

Reduce waste



Hailey Bolland

Facilities Management

University of the Sunshine Coast

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1 Introduction

This report investigates the feasibility of implementing a water refill campus initiative at USC. On the 18th August 2013, A USC student delivered a presentation about the environmental impacts of bottled water and a proposal to phase out the sale of bottled water on campus to the Sustainable Management Committee which was favourably received.

To address this matter Facilities Management investigated the feasibility of introducing a water refill campus at USC using a variety of methods including:

- A staff/student survey
- A risk/benefit analysis
- Financial feasibility analysis
- Review of alternatives to selling bottled water (product comparison)
- Investigation of other similar initiatives
- Review of communication strategies

While there are many social and financial implications to be addressed in phasing out the sale of bottled water on campus; this initiative has the ability to meet key strategic sustainability objectives and enhance the environmental credentials of the University on many levels as outlined throughout the report.

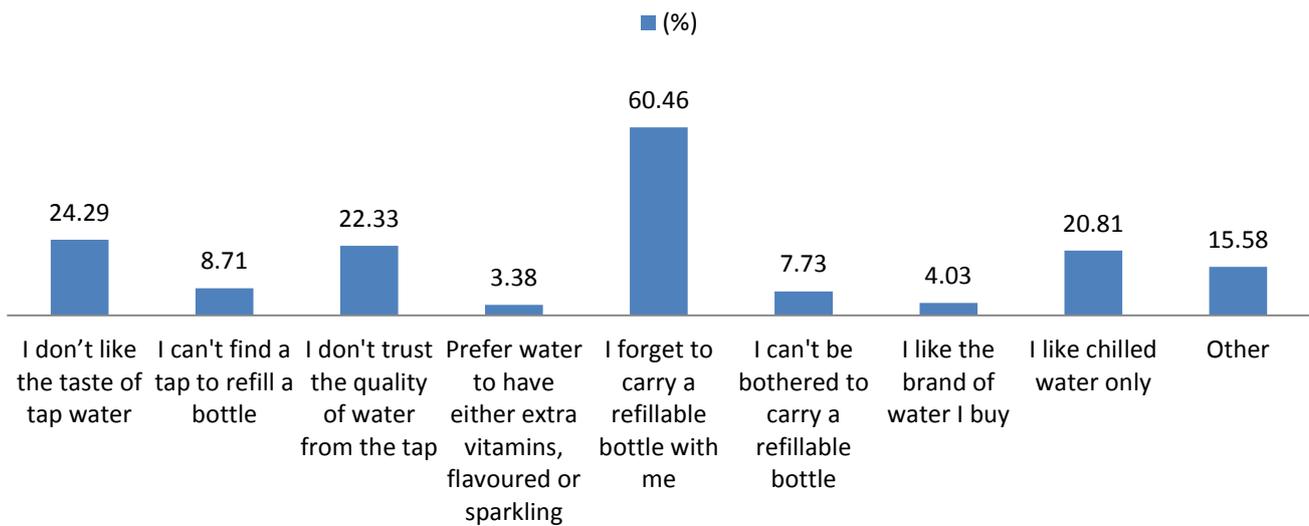
In summary, the following sections of this report:

- Provide the results of an online survey, conducted in October 2013, regarding a proposal to phase out the sale of bottled water at USC
- Highlight the risks and benefits of introducing water refill machines on campus
- Outline the opportunities available for effective communication of the initiative (i.e. Campaign - Reuse a bottle – Refill H2O - Reduce waste)
- Make recommendations for introducing a water refill campus to USC.

2 Survey Results

In October 2013 a staff/student survey was conducted using *Opinio* to gain feedback on the issue of buying bottled water vs. refilling a water bottle; as well as understand what the general consensus is for introducing chilled micro-filtered water refill machines in place of selling bottled water on campus. A total of 1851 surveys were fully completed with a ratio of approximately 70 per cent USC students and 30 per cent USC staff participating in the survey. Overall, the survey results were favourable to introducing a water refill only campus and a majority of results showed that people like chilled water, don't like the taste of tap water, or don't trust the quality of tap water. This supports the need to supply an alternative water product that delivers chilled, filtered, sparkling and still water at a lower price than commercial bottled water. The following results provide a snapshot of student/staff responses to the 17 survey questions. A full graphical representation of the survey results can be found in Appendix A.

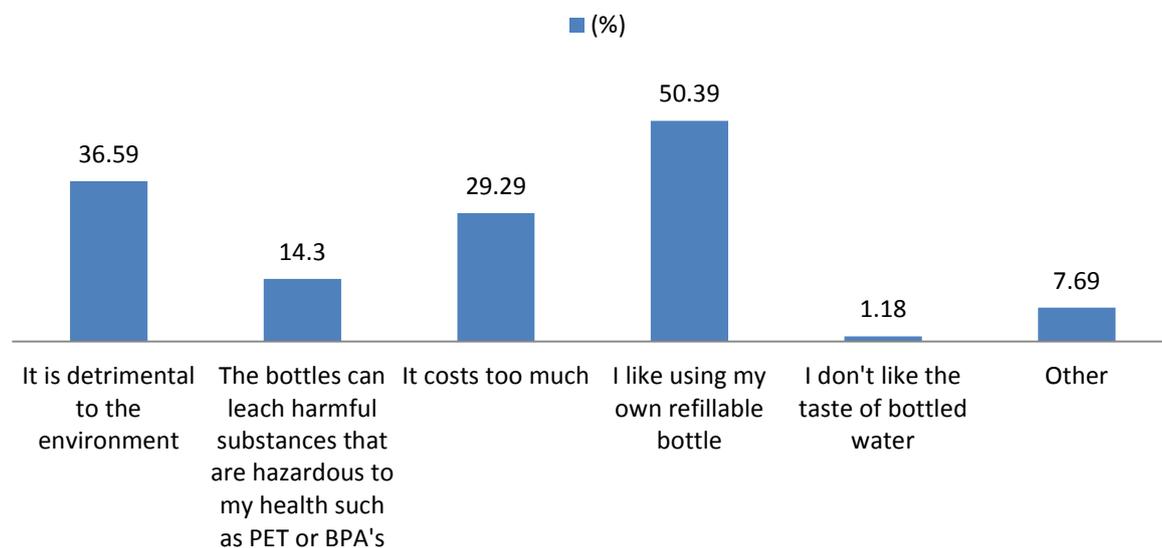
Q 5. Why do you choose to buy bottled water compared to refilling a bottle with tap water on campus?



The top four reasons given for people that choose to purchase bottled water compared to refilling a bottle with tap water are:

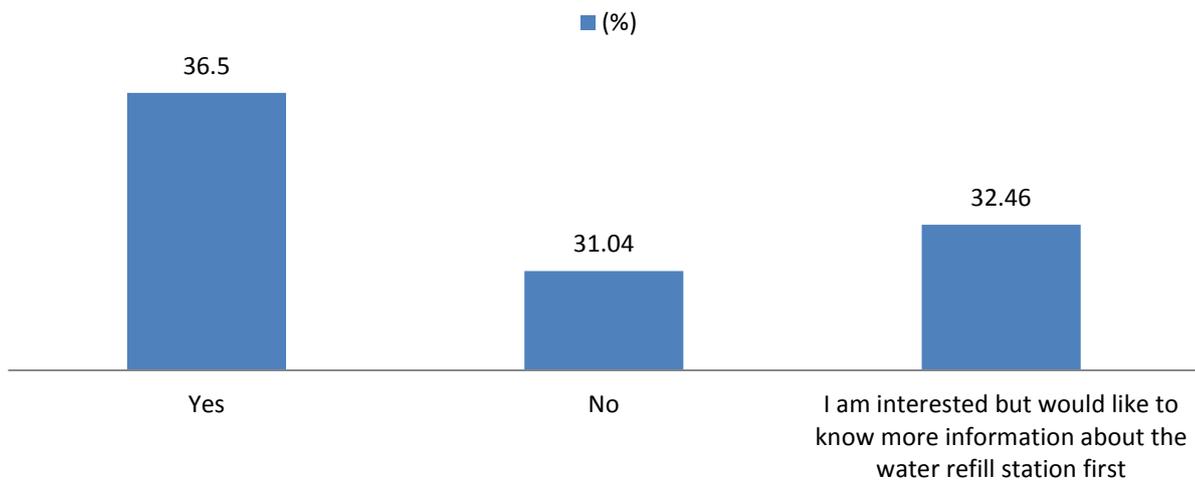
1. I forget to carry a refillable bottle with me (60%)
2. I don't like the taste of tap water (24%)
3. I don't trust the quality of water from the tap (22%)
4. I like chilled water only (20%)

Q 7. Why do you choose not to purchase bottled water?



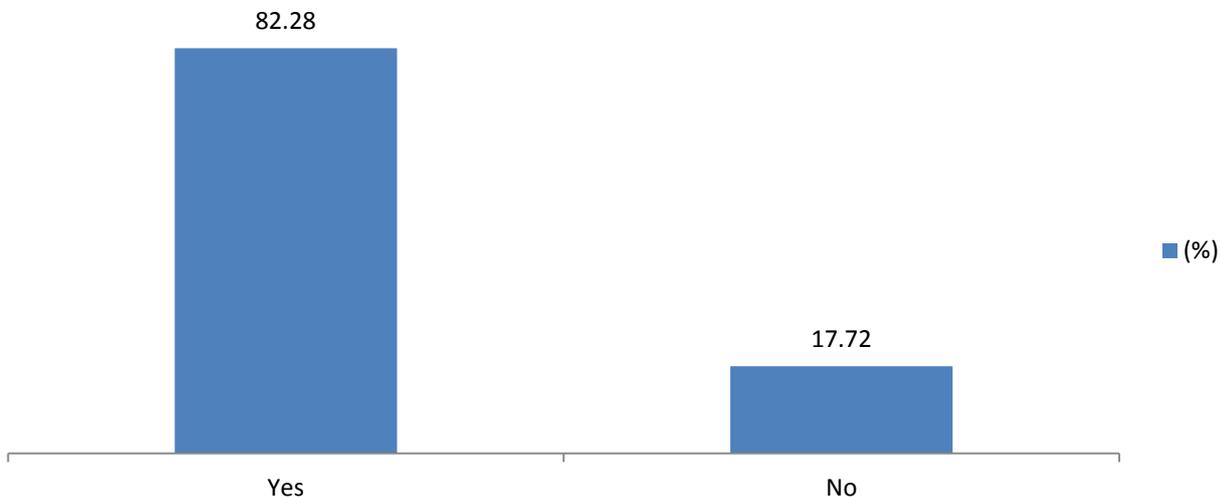
Out of the 51 per cent of people who said they do not purchase bottled water, 50 percent of them indicated they do not purchase bottled water because they like using their own refillable water bottle. The other most popular reasons for not purchasing bottled water were because of the high costs and the harmful impacts on the environment.

Q 13. Would you choose to purchase chilled (still or sparkling) water from a micro-filtered water bottle refill station on campus for a very low cost?



36.5 per cent of respondents indicated they would purchase chilled (still or sparkling) water from a micro-filtered water bottle refill station and 32 per cent support the initiative but would like to know more about the water refill station being made available first. 31 per cent said they would not use the chilled and micro-filtered water refill station.

Q.16 After installing micro-filtered water refill stations on campus and having an appropriate phase out period for selling bottled water; would you support USC to become the first University in QLD to totally ban the sale of bottled water?



Summary of Q. 15, 16 and 17 of the survey

82 per cent of respondents said they would support a total ban of selling bottled water on campus given that micro-filtered water refill stations were provided as an alternative to commercial bottled water. Furthermore, 88 per cent of participants indicated they would like the University to sell refillable bottles and mugs at all campus eateries.

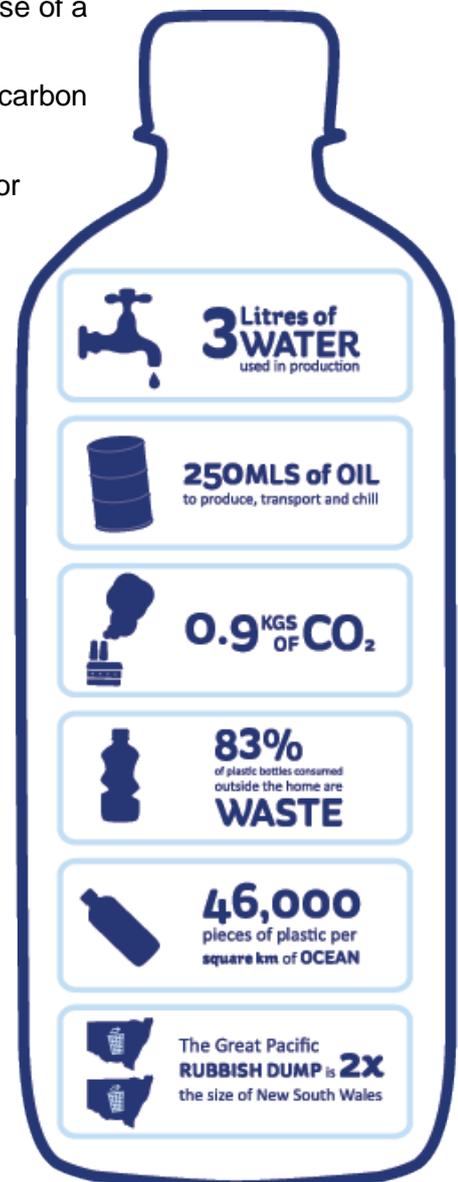
3 Why Target Bottled Water?

More than a billion people around the world do not have access to safe drinking water. In Australia, we have the luxury of quality tap water yet despite this; Australians spend more than half a billion dollars a year on bottled water.

Bottled water is one of the most unnecessary indulgences that society partakes and the environmental repercussions of producing bottled water pose a significant risk to the sustainability of the earth's resources and eco-systems.

Bottled water facts:

- Fossil fuels such as natural gas, oil and coal are used in the production of plastic, emitting dangerous greenhouse gases and toxic chemicals.
- Producing and delivering a litre of bottled water can emit hundreds of times more greenhouse gases than a litre of tap water.
- Australia recycles only 36% of PET plastic drink bottles.
- Australia's annual use of bottled water generates more than 60,000 tonnes of greenhouse gas emissions - the same amount that 13,000 cars generate over the course of a year.
- The manufacture of every tonne of PET produces around 3 tonnes of carbon dioxide (CO₂).
- Most plastic is not biodegradable and will survive in the environment for hundreds of years.
- The main reason consumers purchase water in plastic bottles is due to inadequate access to pleasant tasting filtered water
- BPA (Bisphenol A) is commercially used in plastic bottles. BPA is controversial because it exerts weak but detectable hormone-like properties.



4 Risks and Challenges

Some of the key challenges of phasing out the sale of bottled water on campus are:

- Changing the social norm (getting people to respond to knowledge and change)
- Replacing the commercial income that bottled water provides to campus retail outlets

Challenging people's daily habits and beliefs surrounding bottled water will require consideration of tactical approaches for gaining successful participation; and changing to a sustainable water culture at USC. Some tactics for increasing utilisation of the water refill machines include good marketing campaigns to raise awareness and empowering people to contribute to change (i.e. replacing conventional vending machines with water refill machines). However, the alternative solution needs to address consumer concerns and expectations about the water they will purchase. For example, installing a water refill machine that is quality assured/accredited would help increase consumer confidence in the product; as well as provide a convenient and cheaper alternative to buying bottled water.

Further to this, the financial impacts of implementing such an initiative need to be considered and strategies must be identified to generate commercial income to campus retail outlets.

Some potential risks or issues have been identified below with suggested actions for addressing these.

Risks/Issues	Actions to address issues and minimise risks
<p>Changing the social norm (getting people to respond to knowledge)</p> <p>Difficulty changing habit (not bringing refillable bottles)</p>	<p>*Promote water refill machines on campus to staff, students and the wider USC community through a marketing campaign</p> <p>*Provide a number of free water bottles and smart cards at events</p> <p>*Have a senior USC staff member act as an ambassador</p> <p>*Promote USC as a sustainable campus</p> <p>*Provide a comparable, convenient and cost effective alternative</p>
<p>Use of smart-cards for water machines may be inconvenient</p>	<p>*Ensure adequate signage and maps are placed across campus that highlight the water bubblers available as an alternative</p> <p>*Provide instructions on how to use the smart card system through various media (e.g. website, emails, signage, video, LCD screens, social media)</p> <p>*Pay to top up credit on smart cards at the water machine</p>
<p>Limit to the variety of refillable bottles and cups</p>	<p>*Ensure a range of bottle sizes are made available at retail outlets across campus and explore options for purchasing biodegradable cups in the phase out period.</p>
<p>People targeting USC publicly via news media and social media</p>	<p>*Acknowledge common social media queries and concerns</p> <p>*Attend and respond (senior member of USC staff) to community queries at any future community forum</p>
<p>After hours and guests purchasing of bottles and smart cards</p>	<p>*Ensure adequate signage and maps are placed across campus that highlight the water bubblers available as an alternative</p> <p>*Explore options for purchasing smart cards and bottles from vending machines after hours</p>
<p>Providing water to patrons at large functions and events</p>	<p>*Event Coordinators provide tabletop water fountains with biodegradable/paper cups to guests and patrons at events and functions</p> <p>Or *Program water machines to provide free water at events where appropriate</p>

Reduction in profits to USC outlets	*Identify strategies for commercial income replacement
People not knowing how and where to get a drink of water	*Ensure adequate signage and maps are placed across campus *Promote on USC website, emails, newsletters and social media
Providing water in the event of an emergency (e.g. person fainting, distressed or injured)	*Allow student services and security staff to keep a stock of bottled water for emergency purposes
Providing an option of safe and accessible water to people during a municipal water supply contamination event	*Have a supplier for bottled water available at short notice and sell the bottled water only during such an event
People wanting to know more about the technical features of the water machine they are purchasing water from (e.g. water quality, safety, hygiene)	*Machine supplier to provide technical information and features which can be promoted through various media
Complaints made about having the choice of purchasing bottled water on campus taken away	*Promote the benefits of using a re-useable bottle *Investigate options to provide a number of free smartcards to the value of \$5.00 for students and staff *Promote availability of free water bubblers on campus
People not wanting to pay for water refills	*Promote the existing free water bubblers on campus

5 What are the Benefits of this Initiative?

Should USC implement this initiative, there are many advantages the University would gain such as positive national media exposure from both an environmental and reputational perspective. For instance, USC can demonstrate leadership to the wider community through innovatively reducing its carbon footprint and would be the first University in Queensland to fully implement a water refill only campus. Also, this initiative integrates with USC's total waste management strategy through the reduction of campus waste; and is aligned with achieving the sustainability objectives set out in the USC Strategic Plan 2011-2015, USC Campus Master Plan and the Sustainability Governing Policy. For example, Strategic priority four in the Strategic Plan is to: Develop USC for a sustainable future which includes four objectives relating to improving sustainable practice across the organisation.

Additionally, this initiative assists in achieving objectives 5.1 set out in the University's Sustainability Governing Policy and provides a mechanism for the University to enhance its reputation as a leader in conservation of natural resources.

5.1 Environmental management

- *be recognised as a university which is an exemplar of best environmental management practice with respect to its campus in its influence on the local and regional community*
- *minimise pollution*
- *enter into partnerships or collaborations to maximise the environmental benefits to the region*

Furthermore, there are other Universities and organisations in Australia that have already implemented chilled water refill machines with a high rate of success such as:

- The University of Canberra
- University of Monash
- Murdoch University
- Perth City Council

For more information see the website links listed in section 8 of the report.

The key benefits of transitioning USC to a water refill campus are highlighted below.

Benefits of transitioning USC to a water refill campus

Strategic alignment of University objectives – (e.g. Strategic Plan, Corporate Sustainability Policy)

Demonstrates University's commitment to sustainability - builds University brand and reputation

Demonstrates leadership to stakeholders and the wider community

Builds on USC's total waste management initiatives (e.g. Desktop recycling, Colour coded bins)

Enabling student action and awareness on environmental issues

Reduce USC's environmental impact and carbon footprint (e.g. Reduces the use and disposal of plastic bottles and therefore USC's waste emissions)

Reduces costs to staff, students and campus guests

Hands-on learning: fosters awareness of how an everyday action can lead to a positive environmental outcome

Reduces emissions associated with travel miles due to transport of bottled water

Promotes quality and safety of public water

6 Communications

To promote and raise awareness of this initiative and engage with the USC community effectively throughout the phase out process; a communication plan will be developed. The plan will outline strategies for promoting the introduction of water refill machines on the Sippy Downs campus in Semester 2, 2014, and fully implementing a water refill only campus by the start of Semester 1, 2015. The promotional theme will be based around the aim of the initiative which is to encourage people to refill, reuse a bottle and reduce waste.



Sustainable USC



7 Recommendations

This report has explored a variety of considerations for implementing a water refill campus at USC. Such an initiative has the potential to:

- Meet University strategic sustainability goals.
- Build the sustainability reputation of USC.
- Align with existing sustainability initiatives. (i.e. Campus Waste Management practices)
- Reduce the USC carbon footprint.
- Help USC students, staff and guests to save money.
- Empower staff and students to contribute to the sustainability goals of the University through an innovative water delivery solution.
- Maintain a financially viable alternative to selling bottled water.

Facilities Management propose that USC work in partnership with a suitable water refill machine supplier to effectively provide a convenient, safe and cheaper alternative to bottled water; that also meets the expectations of students, staff and guests. (e.g. Offer a true alternative to plastic bottled water including delivery of micro-filtered, chilled, still and sparkling water.) It is recommended that the sale of bottled water on campus be phased out during Semester 2, 2014, with the phase out to be completed by the start of Semester 1, 2015, in line with effective communication strategies.

8 Website Links

The Tipping Point – Bottled Water Episode -

https://www.sugarsync.com/pf/D7380837_838_806287716

How plastic bottles are killing our animals on Lord Howe Island -

<http://www.youtube.com/watch?v=SCC2cZnMieY>

Bottled Water Free UC – www.canberra.edu.au/water

Go Tap - www.gotap.com.au/

Australian Bottled Water Industry Model Code -

www.bottledwater.org.au/lib/pdf/ABWIModelCode_Mar06.pdf

The Story of Stuff - <http://www.storyofstuff.org/movies-all/story-of-bottled-water/>

Greenwashing Index - www.greenwashingindex.com/ad_single.php?id=51122

I Think I hate Plastic –

<http://ithinkihateplastic.com/site/?tag=fashion-with-conscience>

Learning and Teaching Sustainability - <http://www.sustainability.edu.au/>

Harvard bottle ban - <http://www.banthebottle.net/articles/harvard-in-the-running-to-ban-bottled-water/>

Yarra Valley “Choose Tap Campaign” –

Link to video: <http://www.yvw.com.au/Home/Inyourcommunity/ChooseTap/LatestCampaigns/index.htm>

Link to store: <http://www.dupestore.com.au/>

University of Canberra – Journey to a bottle free UC

<http://www.canberra.edu.au/bettercampus/sustainability/campus-footprint/water/our-journey-to-a-bottle-free-uc>

Monash University -

<http://fsd.monash.edu.au/environmental-sustainability/news/monash-provides-free-filtered-water>

Perth City Council -

<http://www.perth.wa.gov.au/newsroom/featured-news/australian-first-perth-trials-public-drinking-fountain-alternative>

Pro Acqua - <http://www.ProAcquaaustralia.com.au/>

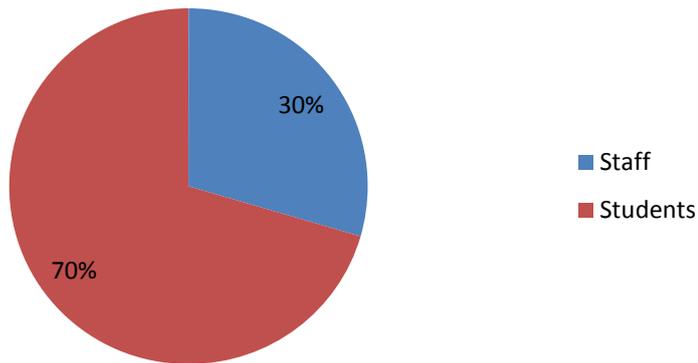
<http://www.ProAcquaaustralia.com.au/news/>

Freshie - <http://www.drinkfreshie.com>

Appendix A - Proposal to phase out the sale of bottled water survey results

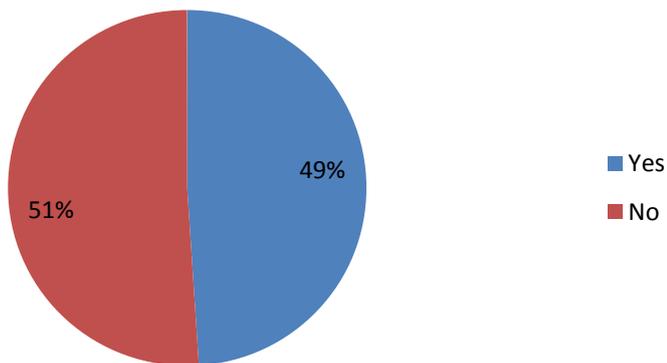
In October 2013 Facilities Management conducted an online survey to gain feedback on a proposal to phase out the sale of bottled water at USC. A total of 1851 surveys were fully completed with a ratio of approximately 70 per cent USC students and 30 per cent USC staff participating in the survey. The following results provide a snapshot of student/staff responses to the 17 survey questions.

Q 1. Are you a student or staff member?

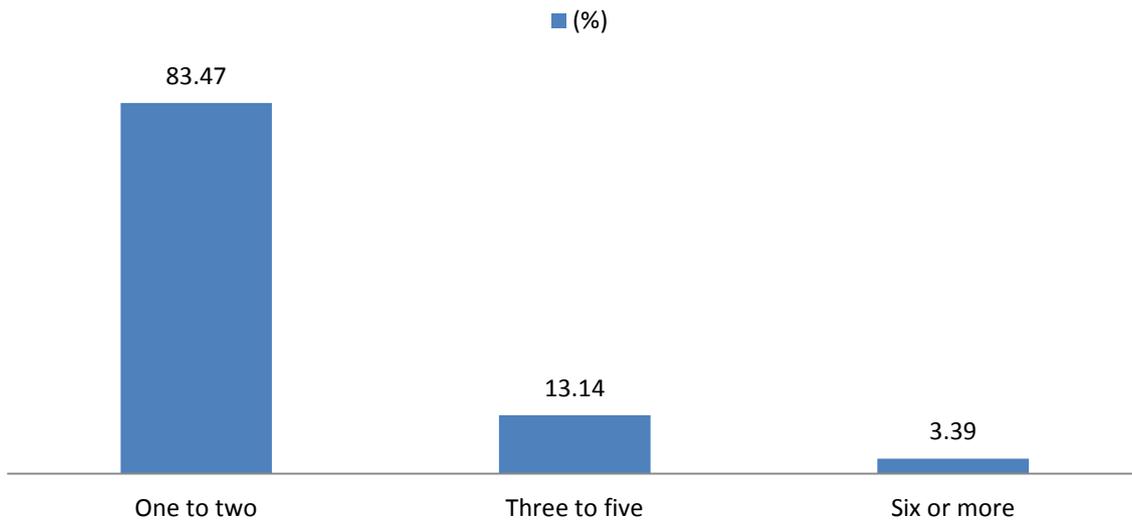


Who Purchases Bottled Water?

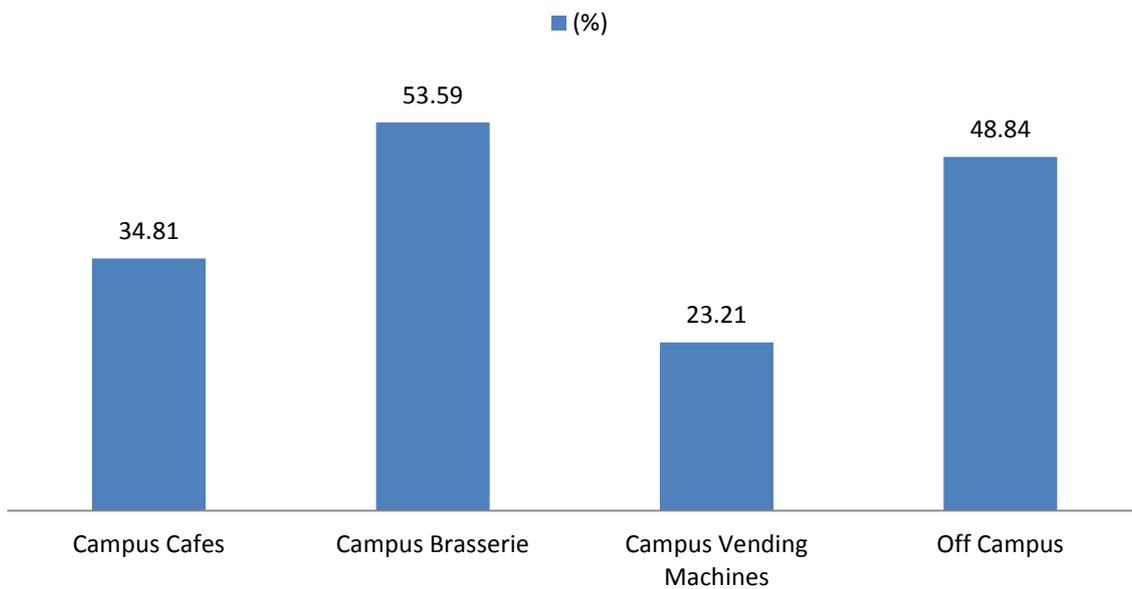
Q 2. Do you purchase bottled water?



Q 3. How many 600ml bottles of water do you purchase per week?

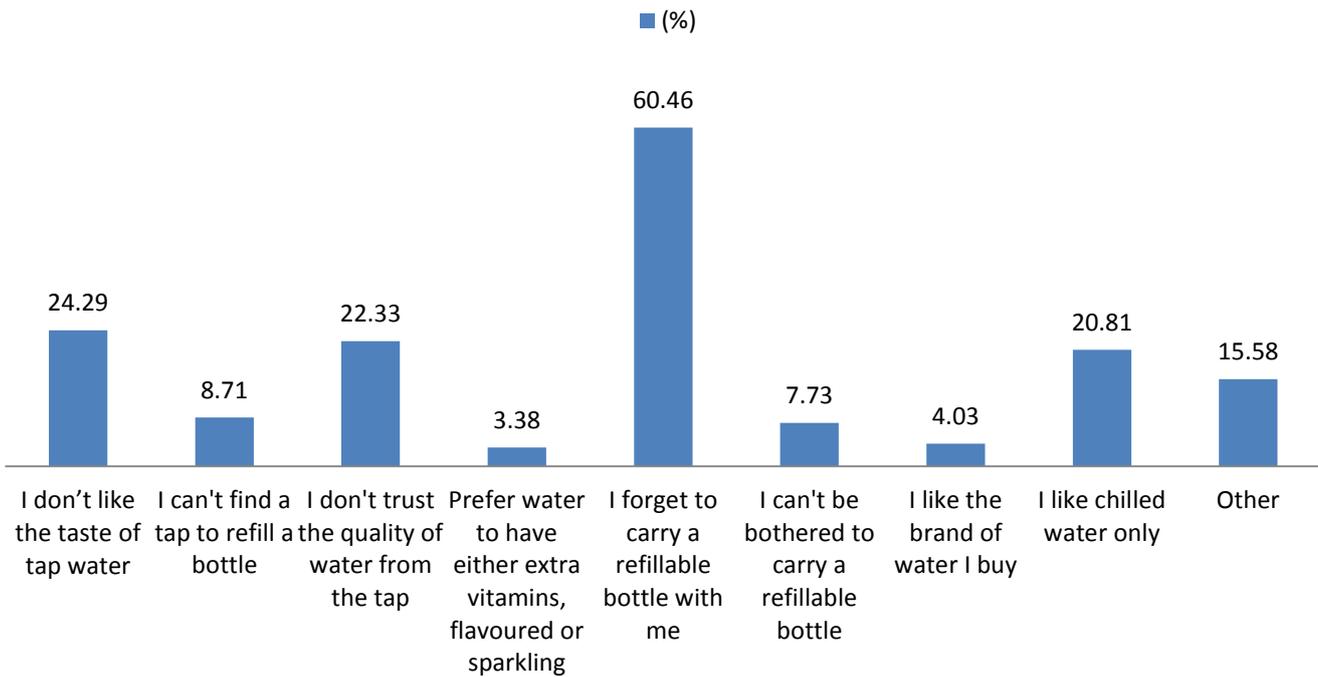


Q 4. Where do you purchase the water bottles from?



Of the 49 per cent of people who say they purchase bottled water, 83 per cent buy one to two bottles per week; with the highest purchases of bottled water being made from the Brasserie and off campus.

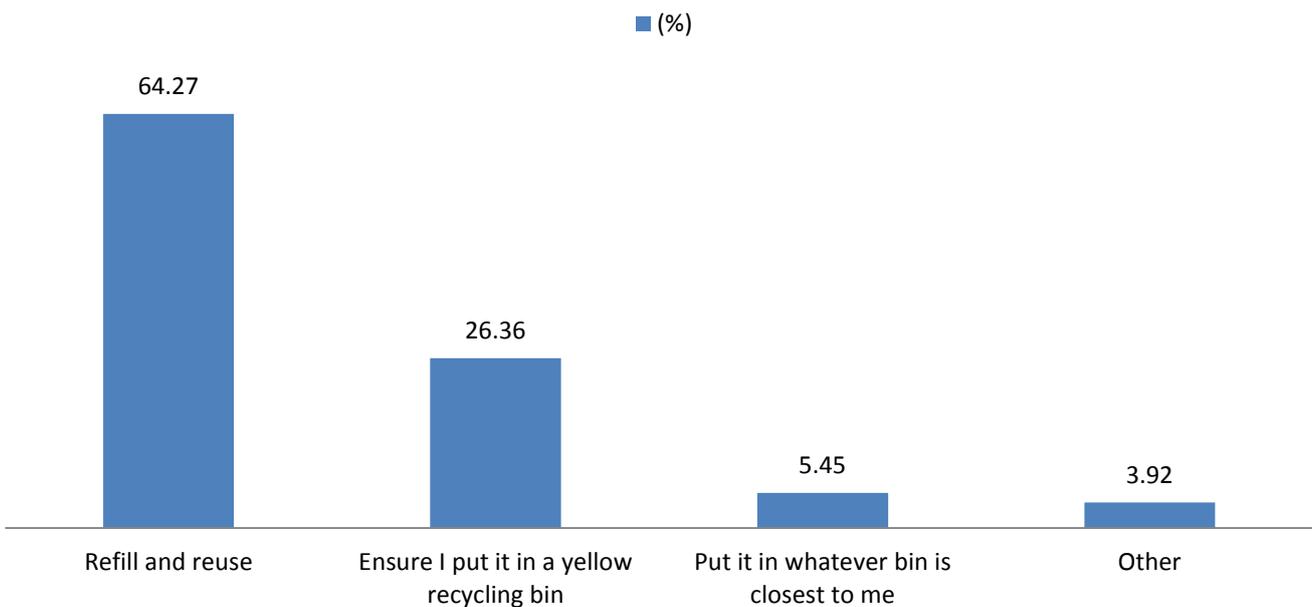
Q 5. Why do you choose to buy bottled water compared to refilling a bottle with tap water on campus?



The top four reasons given for people that choose to purchase bottled water compared to refilling a bottle with tap water are:

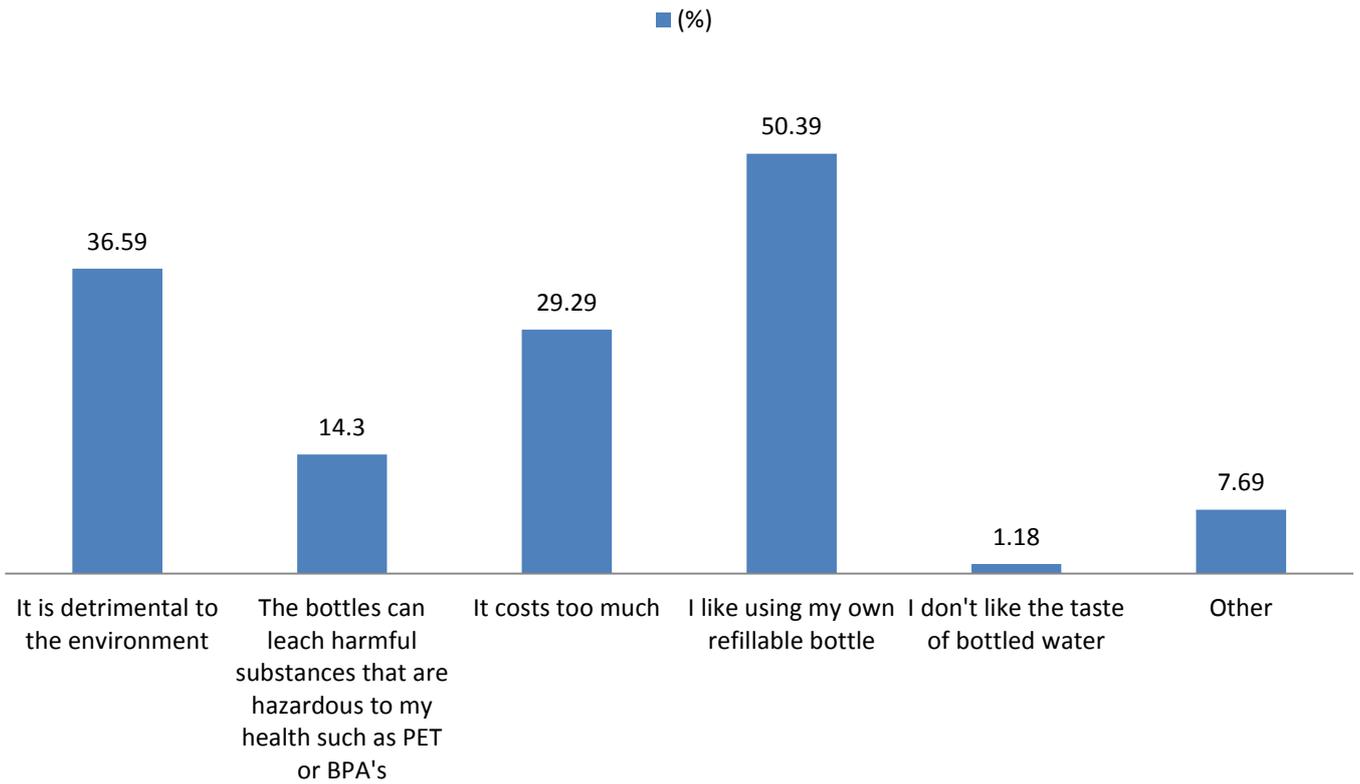
5. I forget to carry a refillable bottle with me (60%)
6. I don't like the taste of tap water (24%)
7. I don't trust the quality of water from the tap (22%)
8. I like chilled water only (20%)

Q 6. What do you usually do with plastic water bottles when you are finished with them?



64% of respondents indicated that they refill and reuse plastic water bottles when they are finished with them.

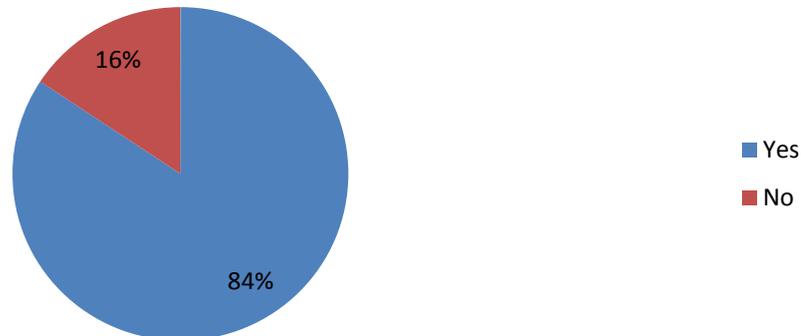
Q 7. Why do you choose not to purchase bottled water?



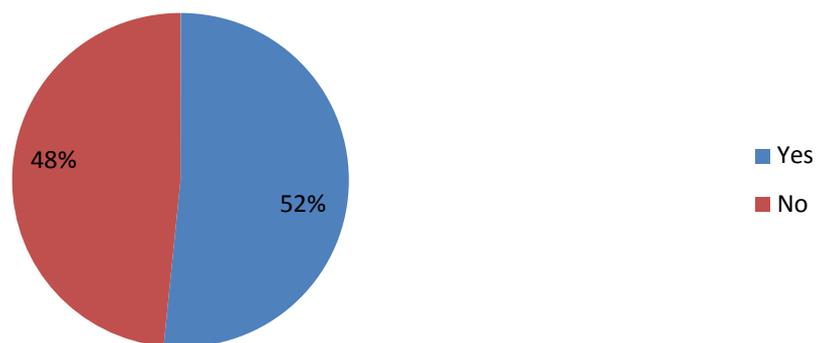
Out of the 51 per cent of people who said they do not purchase bottled water, 50 percent of them indicated they do not purchase bottled water because they like using their own refillable water bottle. The other most popular reasons for not purchasing bottled water were because of the high costs and the harmful impacts on the environment.

Who is interested in the global environmental impacts caused from producing bottled water?

Q 8. Are you aware of the damaging global environmental impacts associated with the production of bottled water?



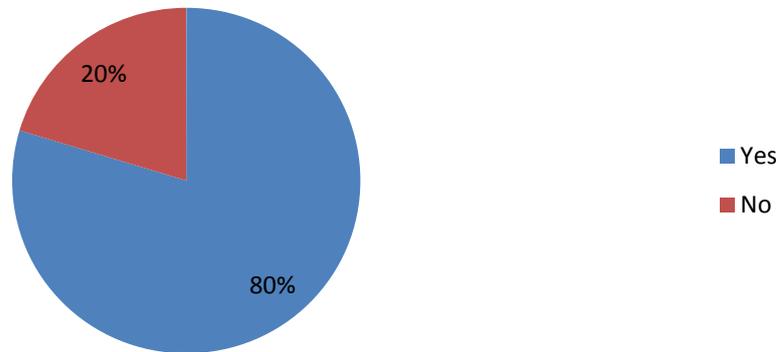
Q 9. Are you interested in learning more about the consumer myths and environmental costs associated with the production of bottled water?



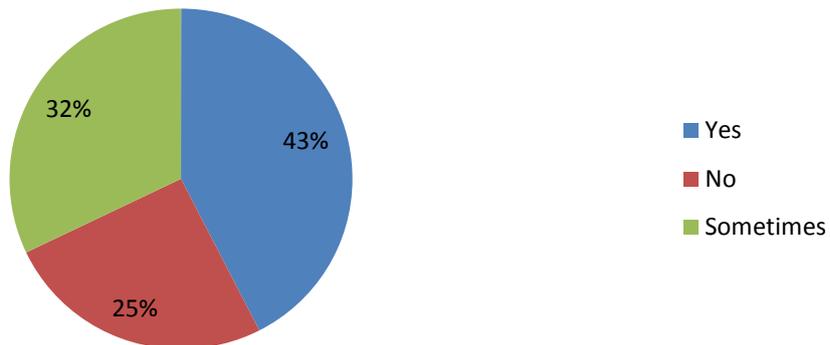
A majority of respondents (84 %) are aware of the negative environmental impacts associated with the production of bottled water and 52 per cent say they are interested in learning more about the consumer myths and environmental costs associated with the production of bottled water.

Who uses the potable water sources on campus?

Q 10. Do you know where the potable water sources are on campus?

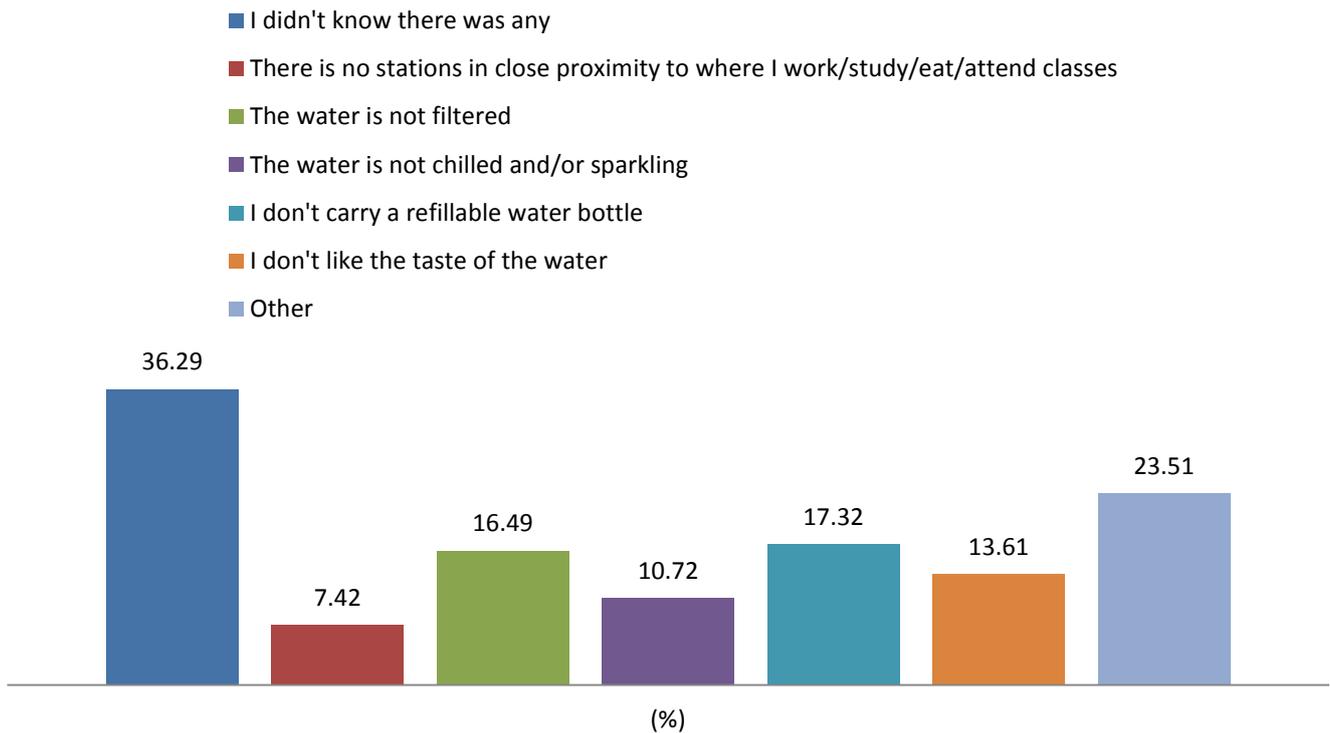


Q 11. Do you use the Aqua bubbler water refill stations on campus?



43 per cent of respondents say they do use the Aqua bubblers on campus and 32 per cent said they use them sometimes.

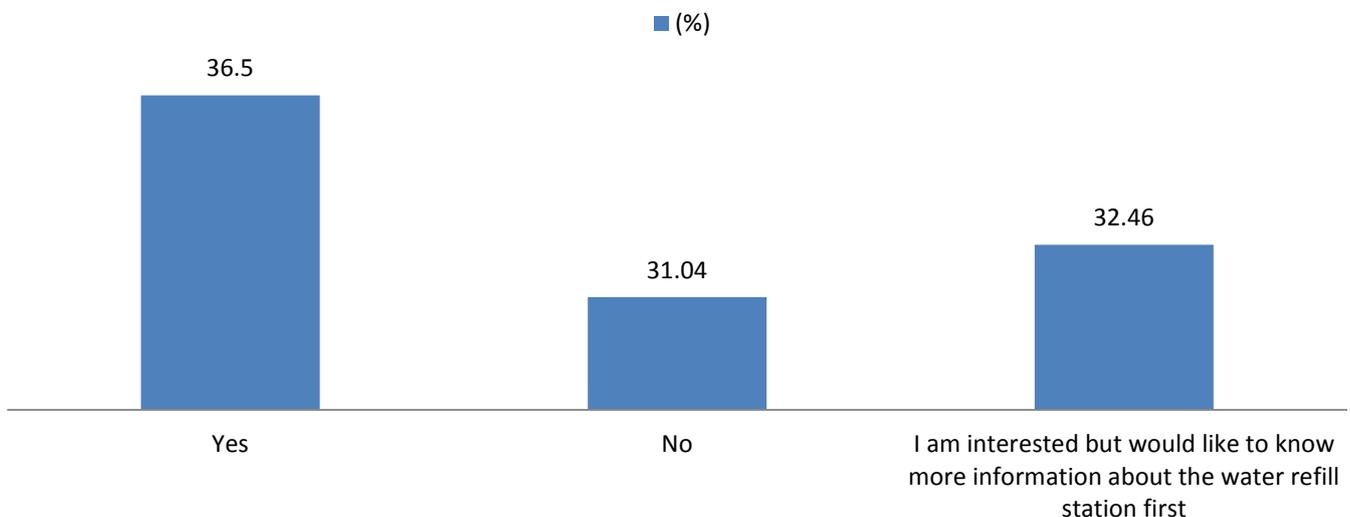
Q 12. Why don't you use the Aqua bubbler water bottle stations on campus?



For those people who said they do not use the Aqua bubblers on campus, 36 per cent said they did not know about them, 23 per cent had other reasons, 17 per cent said they don't carry a refillable water bottle and 16 per cent said the water is not filtered.

What do people think of a micro-filtered and chilled water bottle refill station as an alternative to commercial bottled water?

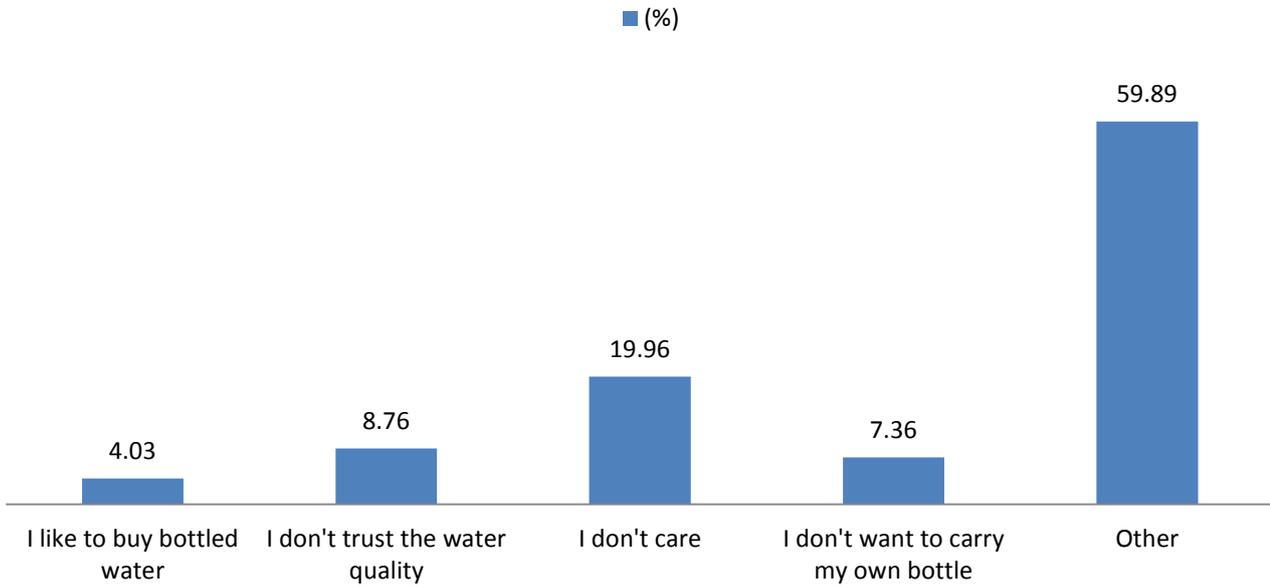
Q 13. Would you choose to purchase chilled (still or sparkling) water from a micro-filtered water bottle refill station on campus for a very low cost?



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water refill station being made available first. 31 per cent said they would not use the chilled and micro-filtered water refill station.

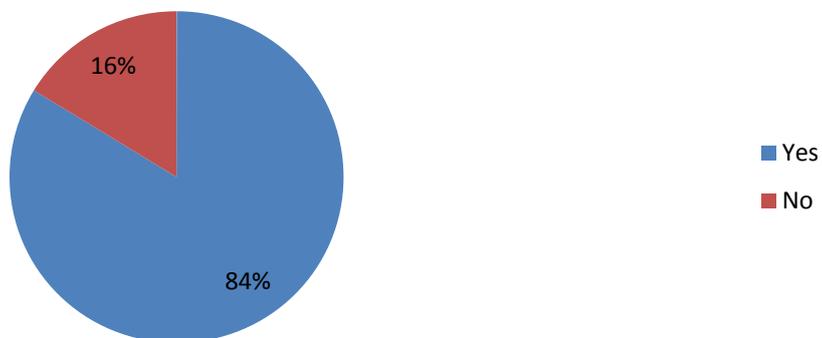
Q 14. What is the main reason you would not want chilled micro-filtered water refill stations on campus?



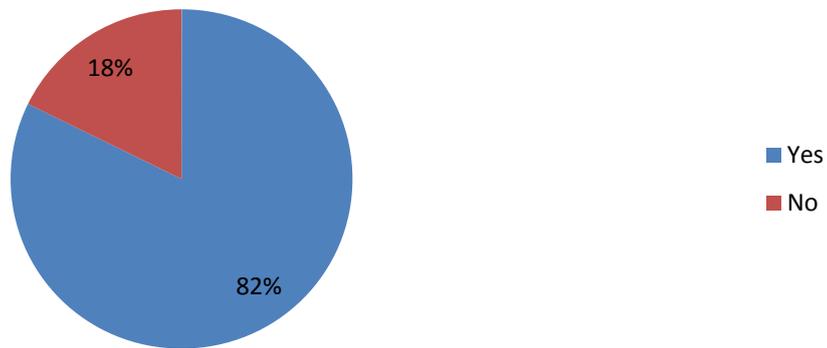
For those respondents who said they would not want chilled micro-filtered refill stations on campus, approximately 60 per cent stated their own reasons for this making this choice. Approximately 20 per cent said they don't care, 9 per cent said they don't trust the water quality and 7 per cent said they don't want to carry their own water bottle.

Who supports phasing out the sale of bottled water at USC?

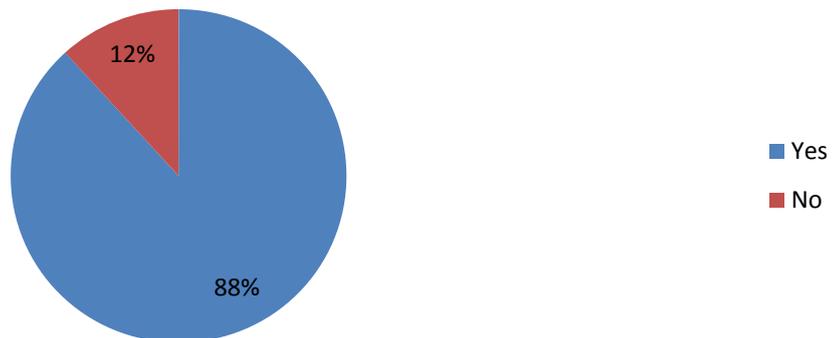
Q 15. If micro-filtered water bottle refill stations were provided on campus, would you support the University to phase out the sale of bottled water?



Q 16. After installing micro-filtered water refill stations on campus and having appropriate phase out period for selling bottled water; would you support USC to become the first University in Queensland to totally ban the sale of bottled water on campus?



Q 17. Regardless of the University banning the sale of bottled water, would you like the University to sell refillable drink bottles and mugs at all campus eateries?



82 per cent of respondents said they would support a total ban of selling bottled water on campus given that micro-filtered water refill stations were provided as an alternative to commercial bottled water. Furthermore, 88 per cent would like the University to sell refillable bottles and mugs at all campus eateries.