Dŵr Cymru
Welsh Water

Plastic Pollution and a Refillable Solution

A water company perspective on plastic bottles, refill campaigns and water fountains

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Context and Background to Plastic Waste

I start my research on June 5th, the UN World Environment Day. The anniversary of the first UN conference on the human environment in 1972. The theme of this year's celebration is plastic pollution, and it comes with the tag line "If you can't reuse it, REFUSE it!".

Diagram 1: Plastic Facts, UN PowerPoint for World Environment Day

Plastic accounts for around 90% of all waste in the ocean with 46,000 pieces of plastic covering every square mile of the ocean floor[1] In the 1950s the world made about 2 million tonnes of plastic a year, now we make 330 million tonnes a year – and it is set to treble again by 2050[2]. The total weight of plastic in our oceans will exceed that of fish by 2050. This is not an issue that can be tackled by conservationists alone.

Although environmentalists have been banging the drum about plastic waste for decades, plastic has been propelled up the agenda since BBC's Blue Planet was in December 2017. This has inspired huge action to prevent single use plastic. This year, 2018, the Queen banned plastic cutlery in the palace, The BBC announced a single use plastic ban by 2020, there has been a substantial increase in demand for glass milk bottles, PG tips are going plastic free and Scotland is banning straws and plastic stem cotton buds. Announced on World Environment day 2018, the Indian Government made an astonishing commitment to ban all single-use plastics by 2022[3].

Plastic Water Bottles

Although it is important to set the wider context of plastic waste, the focus of this research is plastic bottles:

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[1] UN and Infosys, Environment Day coverage, http://worldenvironmentday.global/en/news/infosys-world-environment-day-%E2%80%93-plastic-funtastic

[2] John Vidal, Guardian, (2018), "This stuff is in our food, our clothes – and in us" https://www.theguardian.com/commentisfree/2018/mar/28/plastic-crisis-urgent-recycling-bottles-no-fix

[3] UN Environment Day Highlights, (2018) http://worldenvironmentday.global/en/news/tide-has-turned

- It takes a quarter of a litre of oil and 7 litres of water to produce and transport a one litre of bottled water to a consumer in the UK.
- Globally, we throw away 150 billion water bottles every year, 8 billion in the UK, and only half of these are recycled (at best).
- In Britain we drink 50 litres of bottled water each a year on average, almost double the amount we drank in 2001.
- The average Londoner buys 3 plastic bottles a week.

Diagram 2: Photo of plastic campaigner [4]

This research will consider how water companies can be part of the refillable solution to this problem. I will explore installation of water fountains and the establishment of "refill campaigns" (the idea that members of the public can see a logo in a shop or cafe window and go in and ask for tap water without any obligation to purchase anything) as a potential step to reduce the demand for plastic disposable water bottles.

Methodology

I initially chose 4 cities: Bristol, London, Paris and Brussels to visit as part of this research. They were chosen because they all varied in their approach, and drivers to install water fountains and are at different stages of their journey. All the cities were accessible by train, reducing carbon footprint of the research, fitting in with the ethics of the project. However as I progressed, the need to visit Brussels reduced as I had great correspondence with an organisation there and gave me all the

[4] *UN Website, (2018) http://worldenvironmentday.global/en/news/tide-has-turned*

information I needed over email. The opportunity arose to visit Glasgow for the Institute of Water Annual Conference so I made this visit dual purpose and explored Glasgow and Scottish Water's approach to promoting tap water. I have also included observations from my recent holiday to Australia in April 2018. Meaning the research now studies London, Bristol, Glasgow, Paris, Brussels (briefly) and Australia, see Diagram 3.

My method has been to meet and interview as many experts in these cities as I can, preparing questions before the interview but letting the conversations naturally lead to the areas the participants wanted to discuss. I have had a fantastic response from participants and my thanks goes to them for their time. Transcripts of various interviews can be found in the Appendix.

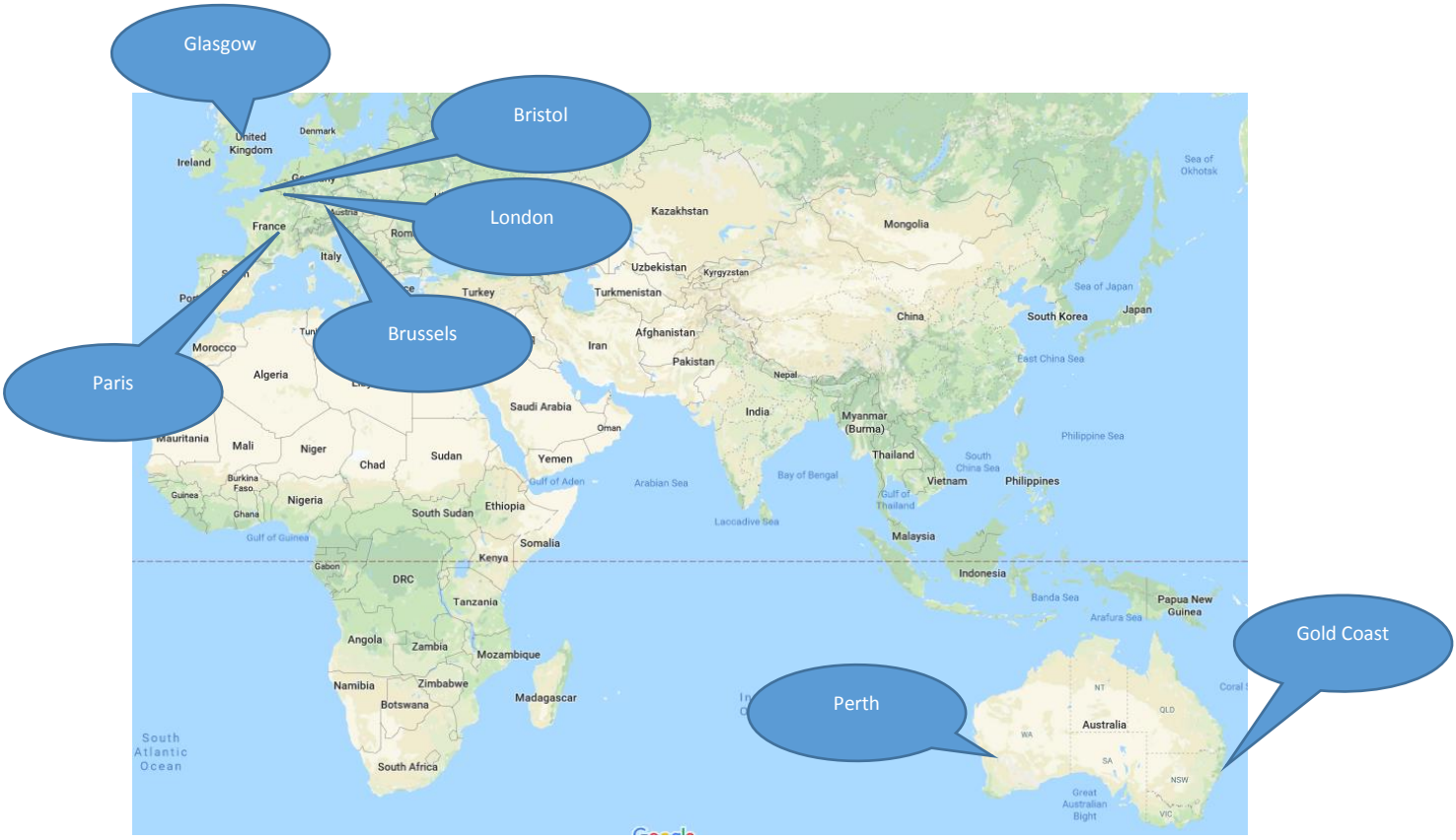

Diagram 3: Map of all the places I visited for my research (and holiday!)

Bristol

Bristol is the most logical city to start my research in, as it is the home of the Refill Campaign, started by the Organisation City to Sea. Their aim is to raise awareness around "linking our actions to our oceans" and change behaviour around using single use plastic. The idea of a Refill Campaign is that members of the public can see a logo in a shop or cafe window and go in and ask for tap water without any obligation to purchase anything. Companies sign up to be part of the scheme and their property appears on the Refill App. City to Sea were the first organisation to establish refillable water bottles in the public consciousness and have been active in Bristol since 2015.

I interviewed Gus Hoyt from City to Sea (transcript in the Appendix), and he described how Blue Planet has made their job much easier as they don't have to explain the problems of plastic to people from scratch anymore. He outlined a number of water companies who have worked with Refill: Bristol, Anglian and Northumbrian Water were all ahead of the curve and have partnered with

Refill over the last couple of years, Bristol Water being the most active. Yorkshire Water installed fountains as part of City of Culture project and Thames Water are very proactive partners at the moment and are still in discussions about how the relationship with Refill will play out. Gus discussed how Refill is aware of the operational difficulties associated with installing water fountains, and their campaign aims to get around this by opening up shops and cafes to give their tap water to people for free. However, he does see water fountains as a welcome and necessary addition to the movement.

As Bristol Water was such a big player in the Refill game since early on, I got in touch with Rob Ellis – Corporate Communications Manager at Bristol Water. He was happy to have a phone interview with me and told me about their journey so far. They have been promoting refilling bottles from the tap for a number of years, partnering with shops and cafés to spread the message that asking for water doesn't have to be embarrassing. Interestingly the feedback from businesses which have got involved has been that they have been inspired to go further and extend their environmental credentials after getting involved in Refill. Bristol Water have built up their campaign over the years and they now have two fountains installed, the fountains are sponsored by two corporate partners and will be maintained by Bristol Water going forward. Rob acknowledged the difficulty of getting to the stage of installing a fountain, but insisted it was the right direction of travel and with the right location and planning will be hugely effective to promoting the environmental agenda.

Diagram 4: The Mayor of Bristol opening the new fountain in Queens Square

Glasgow

I was travelling to Glasgow to attend the Institute of Water Annual Conference and combined the visit with some research into Scottish Water and their refill campaign. I was already aware that Scottish train stations are intending to install water fountains in their "managed stations" [5] but I was pleased to discover that the very day the conference started (June 20th) they launched their "your water your life" campaign and installed a water fountain in Glasgow City Centre. I was lucky enough to hear the CEO of Scottish Water speak about their launch and subsequently was able to quickly interview him about the campaign at the end of a networking event. He told me that they had launched a positive, "pro tap" water campaign, which is good for Scottish health and cheap for the customer. It seemed like they were avoiding using the single use plastic angle as they didn't want to be negative towards bottle water suppliers.

[5] BBC, 2018 https://www.bbc.co.uk/news/uk-scotland-42818453

I hosted a panel on W*ater and the Environment* at the conference and got the opportunity to ask Marcus Rink, Chief Inspector at DWI and Sue Petch, The Drinking Water Quality Regulator for Scotland about their views on water fountains. They were surprisingly supporting of the movement, saying that water quality and hygiene considerations should not stand between providing water to people in public places. He went on to say he supports the idea and sees it as very logical when you consider the cost and environmental impact of bottled water, but would urge water companies to partner with corporates or local councils to ensure rigorous hygiene and maintenance standards were maintained. But overall, a fantastic response from the DWI, removing some of the major concerns around hygiene and water fountains.

Diagram 5: Water and Environment Panel at the IoW Annual Conference. From left: Lydia Makin (Welsh Water), Sue Petch (The Drinking Water Quality Regulator for Scotland), Marcus Rink (Chief Inspector at the DWI) and Elise Cartmell (Chief Scientist at Scottish Water).

London

Londoners are among the highest users of bottled water in the UK. The average London adult buys 3.37 plastic water bottles every week – that's 175 every year per person, and over a billion per year on a city level. Sadly, many of these end up in the River Thames and flow out to the ocean[6]. However, the tide is definitely turning in the city. The Mayor of London has committed to installing 30 fountains in strategic locations in London and London Zoo has stopped selling bottles of water as part of a new campaign to protect the world's oceans. Although environmental movements have

[6] One Less Bottle Campaign, London (2018) https://www.onelessbottle.org/

been vocal the plastic bottle problem for years, it is difficult to penetrate the consciousness of the "everyday" Londoner.

While in London, I interviewed Paula Owen, CEO of Environmental Consultancy *Green Gumption* and founder of the campaign #pointlessplastic. We discussed the issue of plastic in general and the shocking examples of pointless plastic in our everyday lives. She described the newly energised campaigns around the topic and the small and large "wins" they have had form stopping balloon races to getting Marks and Spenser to change their packaging. There are many community groups in London organising to fund fountains in their local areas, this can be seen across London and one of the first examples of "bottom up" fountain building is Borough Market where they have simply been installed by the market organisers, in the bustling tourist spot.

Diagram 6: Modern Water Fountain in Hyde Park

London has a rich history of water fountains. This is documented in detail in the fantastic book on the subject, Parched City, by Emma Jones. I was lucky enough to interview Emma on the 11th June in Dalston. Her book tracks the history of public water provision in the capital and uses her expertise as a historical architect to describe not only water treatment, fountain design or location but the political drivers and funders behind their construction over the last few hundred years. When fountains were first built, they were one of the only, very limited, places you could access water at all in London and great value was given to their ornate design. In later years they have fallen into disrepair and value seems to have diminished.

In my interview with her, Emma spoke about how fountains had been considered a necessary part of public infrastructure in times gone by, so why do we have a different view today? People will always need to access water when they are not at home, so without fountains there will always be a demand for plastic bottled water. She highlighted the obvious environmental benefits, but also the links to other social problems such as childhood obesity and fizzy drinks and dental health. We spoke for over 2 hours and the summary of this can be found in the appendix, but one interesting line of thought was the link to waste and recycling. Waste collectors in the capital are struggling with the amount of waste they have to process, so could there be a potential funding route through them, if we could prove that fountains reduce the purchase of other drinks/drink containers?

Paris

Paris is leading the way in public water fountains. There are 1200 public water fountains in the city centre, including, would you believe, 17 sparkling water fountains. Paris' public water supplier Eau de Paris (Paris Water) has installed and is responsible for all of these[7].

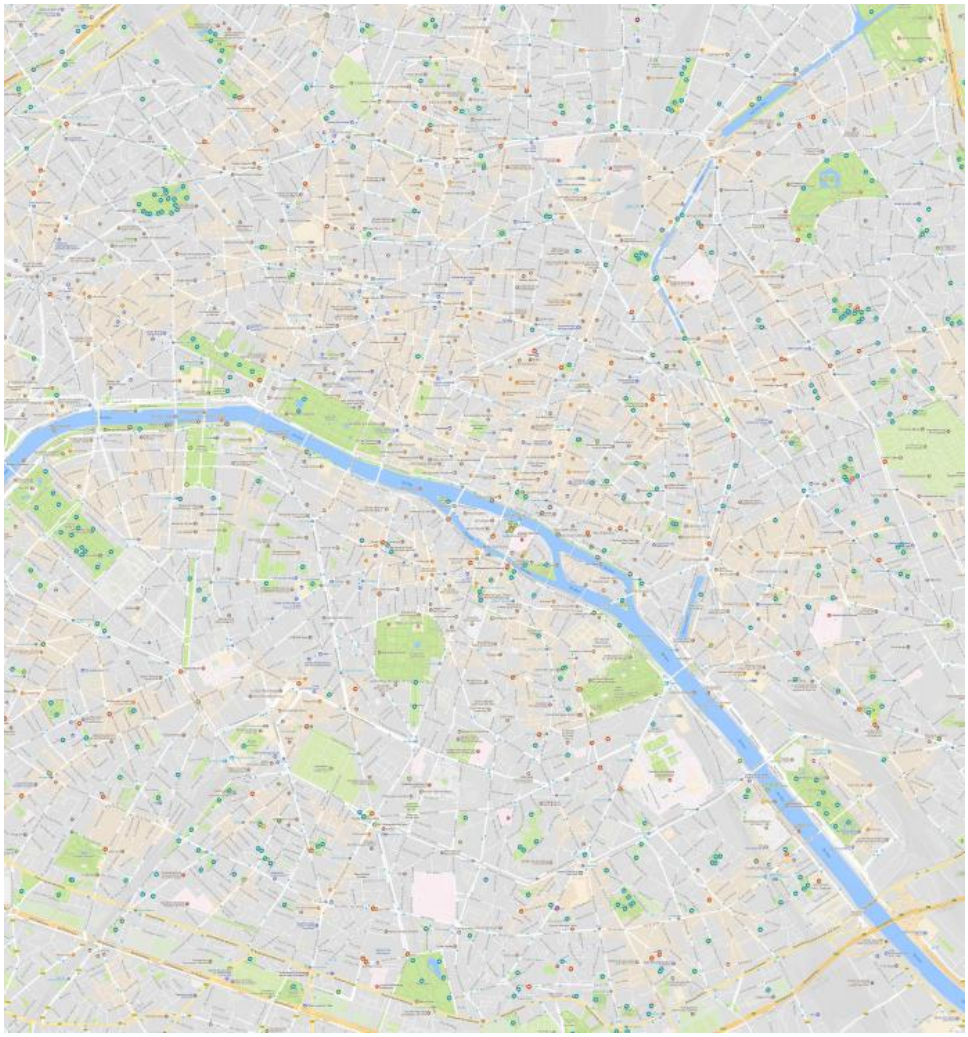

Diagram 7: Map of Paris with water fountains labelled.

I visited Paris 2-4th July 2018 and managed to secure a meeting with Paris Water. I met with Fabrice Borea– Water Fountain Programme Manager and Emmanuelle Marcovitch – Communication and Marketing Team – dedicated to the water fountain programme of work. The full visit report is in the Appendix, but key points from the meeting are outlined below:

- **Fountain programme:** 1200 fountains in Paris – all quality checked monthly and maintained by Paris Water. Including 17 sparkling water fountains, which have measurably boosted public opinion of the company.
- **Dedicated team:** 10 people for the fountain programme, plus 1 person in the Comms team, and contracted out sampling, maintenance and cleaning of the fountains.
- **Drivers for the programme:** Homelessness and the culture of water as a public service. The environmental driver is actually secondary here.

[7] Claire Warner (2017), French Journalist https://www.bustle.com/p/paris-is-installing-sparkling-water-fountains-across-the-city-in-the-most-millennial-move-of-all-time-3229485

- **Fountain App:** Fountains embedded into a map of Paris. Integrates into google maps
- **Future plans**: Secured funding to continue building more fountains, through a public vote on where to spend the city's money. Launched their summer comms campaign around "street art/graffiti" and have had street artists paint some of the old fountains and promoted the new sparkling water fountains.

My overall view from the visit to Paris Water, was that Paris has a rich history of water fountains dating back to the 16th Century and this means the culture is very different in viewing public water provision as a necessary public service. Although Paris Water were honest about the difficulties and challenges in installing the fountains (mainly cost and vandalism) there was no consideration to end or reduce the programme, in fact they were continuing to expand. They have many different designs of fountain, old and new, but all of them have a clear label verifying the water quality by Paris Water and because of this and as they are "part of the furniture" in Paris then the levels of trust in the fountains are very high.

They have carried out focus groups with customers who used the fountains and have proved that using a fountain regularly does directly reduce the amount of bottles you buy.

I found this visit inspirational, and an insight into what a fully funded, fully staffed and publically supported water fountain project could look like.

Brussels

I initially planned on visiting Brussels to learn about a charity called Street Nurse. They are a group of trained nurses who provide public health and first aid to the homeless men and women in Brussels. This is relevant to my research because it puts a whole new angle on the provision of publicly available drinking water. Street nurses distribute paper copies of maps with all the water fountains and public toilets highlighted. They encourage the homeless people which they help to use the fountains to drink, and stay hydrated for health reasons. They emphasised the importance of this resource to me and although this wasn't a driver for fountain construction I had really considered before I began the research, but it has been highlighted to me by numerous people. Including in Paris, where it is impossible to ignore the homelessness problem and the direct need these people have for clean water.

Australia

Please see the below photos I took while in Australia (West and East Coast). Issues which may prevent installation of fountains in Wales, of hygiene and contamination, seem to be waved in Australia as well, with many many different designs of fountains of varying ages dotted all over the coast and the cities. Due to the weather, the need for water as a public health good is more apparent. People spend more time outdoors and away from their homes, or cafes etc where they might refill, so fountains are essential and they really are everywhere. In Australia they are brought up using, trusting and respecting fountains because they are necessary in everyday life. At the Commonwealth Games events (the reason for my trip) they had installed temporary water fountains with 28 dispensing points on it. A vast contrast to the London Olympics where complaints were made about the lack of free water provision (interesting, considering one of the main sponsors of the Olympics was Abbey Well bottled water).

Most of the fountains were in part funded by the Australian Water Corporation and the local council. I only saw one fountain (out of about 30) which had corporate sponsorship clearly labelled.

What I learnt from Australia was that the design really isn't that important. If there is a demand and a will from the Water Company and/or local council they will be installed, seemingly without much controversy. Speaking to a number of local residence, there is not the same reluctance or fears in Australia surrounding water quality, it's a way of life, just as any ordinary infrastructure would be, similar to what I saw in Paris.

Diagram 8: Collage of water fountains in Australia

Online consultation

The Marketing Team at DCWW kindly funded a public consultation for this research, so that I could gauge the views of our customers. The full PowerPoint outlining the results will accompany this report.

The main messages from our customers are:

- The level of understanding of these issues is very high. Awareness of plastic waste is in the forefront of public consciousness at the moment. 73% of customers said the issues of plastic waste is **very important** to their family.
- They support fundamental changes to systems and human behaviour to be able to change the tide on plastic waste. It is felt that government, corporations, and the general public all need to work together to tackle the issue of plastic waste.
- Customers are conscientious when it comes to purchasing unnecessary plastics for the most part, however **over half** are purchasing single-use plastic bottles once a week or more, showing that there is still room for improvement here.
- Customers want to see Welsh Water shouting about the positive impact fountains could have on the local community, as well as benefits to the environment, the cost savings of refilling a reusable bottle, and the high quality of the Welsh tap water.

- Key concerns around hygiene and safety of the water fountains, as well as worries that anything in a public space is open to vandalism, lead to some apprehensions about building refill stations in Wales. In order to reassure customers, it is important that precautions are put in place, such as regular cleaning of the fountains, secure locations for the stations, and barriers to stop people from tampering with the water supply.

Quotes from customers:

- *"It's funny how these things come back around. Water stations used to be a symbol of civic pride, whether set up by a council or philanthropist. Would love to see this again. Not only for conservation purposes, but as part of bringing life back to our high streets."*- Male / Aged 36 – 55
- *"I would definitely be comfortable asking a business to refill my bottle for free as long as they are advertising that this is an option or are on the refill app. "*- Female / Aged 18 - 35
- *"Good to see Welsh Water attacking head on serious issues and including their customers."*- Male / Aged 56 - 75

Conclusions

Based on what I have learnt from all the cities and countries I have visited and the customer consultation here are some of my overall "lessons learnt" which DCWW can take forward.

Design

Only 7% of Brits say they drink from a water fountain. The Keep Britain Tidy poll says only 25% of the public know when they can ask for water for free - while 71% feel awkward asking for water from venues if they are not a customer. The design must look and feel hygienic for people to trust fountains enough to use them. The design of the fountain can help people to trust it is hygienic. Making the fountains more "tap like", so it can only be used to refill bottles and not put your mouth straight onto the spout is crucial.

But as Emma Jones stated in her interview, just as architecture changes from place to place, so should drinking fountains. The design will be different for every setting, it depends on the environment and target audience. Australian fountains included a shower for when you came off the beach and a dog bowl if it was on a walking trail. And a few people mentioned in their interviews that you will increased trust in the water quality if the water company logo is on the design, and this was clearly working in Paris.

On reflection I don't think the design is as crucial as I thought it was at the beginning of this research. There are so many different models and manufactures with different benefits and aesthetics which suit different locations. As long as they are WRAS approved and the dispensing part of the fountain is designed to refill a bottle, not to go directly into someone mouth, I think that the design will only take us some way to fountains being a success. The public communication around the fountain and awareness of the movement will drive people to see their value again.

Partnerships and Location

Partnerships and location have varied throughout the cities, but they are key considerations to improving trust in the fountains. We should aim to build the first fountains in buildings like sports centres, libraries, and train stations or indoor markets, ensuring they are clearly labelled, like they did in Paris, stating the water is safe to drink. Based on the public consultation, people are already

more comfortable with using fountains in these locations. Then following this the locations could be more “public”, in places such as shopping centres and university campuses.

For a Welsh context, I would not recommend the “purely public” locations such as parks and streets. Too many of the fountains I visited (old and new) were surrounded by rubbish or leaves etc, and it is clear that it was very difficult to keep them looking clean, even with a maintenance programme. If Welsh Water were going to put their name on a fountain, there is too much risk if it was in a purely public space. This was evident in Queens Square in Bristol, were a relatively new fountain was rusted and blocked, despite the work of Bristol Water to install and maintain it.

Partnerships will naturally follow, depending on locations identified. Lots, if not all, of the fountains I visited were co funded with an organisation or corporate or council partner. This is becoming increasingly appealing to corporates and councils as the issue grows and the positive PR opportunities become apparent. Identifying these partnership opportunities and relationships is an important first step, and could be developed through the companies who already participate in Refill Campaigns.

Communication Campaign

Any programme, Refill or fountain, would require a large scale communication campaign. As a trusted brand, DCWW would be perfectly placed to do this. The focus group gathered some ideas on what the messaging of a comms should include, which could prove useful for us in the future.

Lessons can be learnt from Paris Water who have used the branding of street art and graffiti to advertise their fountains, cleverly embracing the risk of vandalism by getting artists to graffiti their fountains on purpose!

What’s next for Wales?

Water fountains and Refill campaigns offer DCWW a fantastic opportunity to be part of the solution to plastic bottle waste in Wales. Fountains specifically, should also be considered because of their importance to the social architecture of a city and the provision they provide to homeless people and the health of the population.

In their 25 year environment plan DEFRA have written that they will "support water companies, high street retailers, coffee shops and transport hubs to offer new refill points for people to top-up water bottles for free"[8]. The issue is in the public eye and on the government agenda, in Westminster as well as in the Welsh Assembly. Discussions between Welsh Water and the Welsh Assembly have taken place over the last few months regarding which course of action to take. To my understanding, there will be a joint Refill campaign, in line with the exciting announcement that Wales is to be the first “Refill Nation”. I understand that the focus is not to be the installation of water fountains at this time, but my prediction is that fountains and Refill points will be created by organisations or communities with or without DCWW involvement, as is happening along the Pembrokeshire Coastal Path[9] and in other locations across Wales. It would reflect well on DCWW to be involved with this from the beginning, in line with customer expectations.

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[8] Summary of the Government’s 25 Year Environment Plan, 2018 http://glostext.gloucestershire.gov.uk/documents/s43791/180124%2025%20Year%20Environment%20Plan%20final.pdf

[9] Sky News (2018) https://news.sky.com/story/free-refill-scheme-along-wales-coast-path-to-fight-plastic-pollution-11395172

Pushing this conclusion further still, the movement away from disposable plastic does not stop at water bottles. As stewards of the environment in Wales Welsh Water are in a position to push the plastics agenda further. Looking at all areas of the business to address our reliance on plastic: internally, in our canteens and stationary supplies to our operations and the products and packaging that we procure as well as the messages we give to customers about fly tipping in our catchments.

As I draw this research to a close, today I have been assessing a water meter which was removed because it was blocked by some plastic which had come off the pipe. We cannot ignore the fact we interact with this material on many levels, every day. “This stuff is in our food, our clothes – and in us” [10]and I would add, it’s in our water too.

[10] Guardian, (2018) https://www.theguardian.com/commentisfree/2018/mar/28/plastic-crisis-urgent-recycling-bottles-no-fix

Appendix

1. Gus Hoyt (City to Sea) Interview

Question	Answer
What has the recent media attention to single use plastic/ Blue Planet frenzy meant for City to Sea? Has there been a notable shift or increase in your projects over the last year as a result?	It certainly means that people are finally aware of the problems with plastics and marine pollution. It also saves us a lot of time in now not having to explain the problems. We at Refill have always had more interest than resources or funding allows. We do love the work of Sir David though and thank him and the BBC team for BP2.
Generally, have you seen water companies facilitating/keeping up with this movement?	Absolutely. The messaging between tackling Marine Plastic pollution, Refill and healthy hydration seem inextricably linked. Water quality and valuing this precious resource all go hand in hand. Some more than others, but our core funding comes from Water UK now which is made-up of all the water companies. Bristol, Anglian and Northumbrian Water were all ahead of the curve and have worked with us over the last couple of years, Bristol Water the most. Yorkshire Water installed fountains as part of City of Culture. Thames Water are very proactive partners at the moment - though we are still working out ways of working etc.
Water companies aren't essential in making Refill successful (as we have seen), but what in your experience, do they bring benefits to the campaign? Examples?	Absolutely. Reach and Comms - example to date: - Bristol Water magazines that go to every household in their region. One cover story and three issues with major and fun coverage. Reverse side of recent bills - massive ad for Refill. Public Outreach - through 'Water Bars' and at public events - interacting personally with public, Pride - Balloon Fiesta. Legitimacy - Trust from major corporations/organisations goes a long way. Additional resources: From staff volunteering their time signing up new Refill Stations - Northumbrian Water and Refill Durham in a month! And 167 Refill Stations in Newcastle on their lunch-break at a recent conference. Yorkshire Water are holding Refill stalls and sign-ups at many public fairs and festivals over the summer and Severn Trent have

	brought this in as a major component of their 2018 activities.
Has it been mainly public/community groups driving refill?	It's a three prong approach (actually more, but for simplicity) Community - driving Refill where they live - adds a personal face, touch and creates longevity and word of mouth. Corporate/Council - organised pushes and outreach into communities. Chains - working to bulk add chains into the initiative.
What has the experience of the café/shop owners involved in refill been like and have you got feedback from them I could use in my research?	We are starting to look at this and hope to more so with Refill London but need to bring in further funding. Perhaps this can be an element of Refill Wales. To date all we have are testimonials and anecdotal evidence. All of it positive but we haven't really been collecting it I am afraid. Until April 2018 we didn't even have core funding met. This is a crucial bit of research and some have looked into it. YouGov most recently found a positive correlation that backs up our anecdotal evidence on making purchases: https://www.talkingretail.com/news/industry-news/consumers-likely-make-purchase-business-provides-free-water-finds-survey-17-04-2018/ Also we get feedback that the businesses 'feel good' for doing their bit, it's a feel-good and positive campaign. Many also then cut back on other single-use plastics - eg: straws and cutlery
Do you see water fountains as a crucial part of a refill campaign? Are they necessary and what cities have you seen good examples of fountains being built?	We established Refill as I knew the difficulties facing the installation of water fountains in the UK. They are a wonderful addition and we'd love to see more but Refill is a way to open up all the outlets in businesses that have high quality and hygienic drinking water - literally on tap! Bristol has installed 2 fountains, sponsored by local businesses, installed by Bristol Water and upkeep by council and local businesses. Aiming to install a further dozen with business sponsorship as part of the Jennings Legacy (named after our dear friend and supporter Ali Jennings who sadly passed with Cancer too early this year). Hull installed four for City of Culture.

	London has plans for 40+ with a complex and varied system of sponsorship and grant funding - Thames Water playing their role too. Borough Market also recently installed some excellent ones.
Do you know of any research or surveys of public opinion on water fountains?	As luck would have it here's a KBT/BRITA study that's just out: http://www.keepbritaintidy.org/sites/default/files/resources/Water%20Water%20Everywhere%202018%20Report%20WEB.pdf Alas it says people are worried about hygiene.

2. Emma Jones (Author of Parched City) Interview

Question	Answer
Are you still working in the water fountain/anti bottle water field? Anymore watery projects?	About to start writing a paper on the subject to update what has happened since the book was published. The paper is called ***21st Century Drinking Fountains: A manual***
Have you seen an increase of interest and buy in in recent months (after blue planet/plastics debate becoming mainstream)	The interest is huge at the moment as a result of the plastics agenda. But will it be long lasting? The political kudos surrounding fountains is huge. So we need to be careful they aren't used as political ammunition.
You wrote that there was a tentative fountain renaissance in the early 2000s…are we seeing third wave fountianism starting this year?	There was a post war interest in fountains when London was rebuild after the blitz. They were donated to many of the Royal Parks around this time. Then Millennialism drove the env agenda of the climate change era and there is a general move around climate change and env behavioural change around plastic now yes. But fountains pre dated bottled water, so they obviously weren't initially a reaction to this env issue.
You write about the huge number of people/organisations involved with erecting a fountain. I am experiencing that first hand and you are spot on in your book, water companies are flummoxed. So are water companies the ones to lead this?	Interested to find out where the water company duty lies. Eg: Water company responsibility to provide water, you cant disconnect customers in the UK. There has to be a real will to make it happen – are water companies those people? Barriers depend on location as well – for example the tube stations wont put in fountains because of competition between the shops.

Have you got any advise on fountain design? Have you seen any good examples?	Looking at design is very important. There wouldn't be a one size fits all fountain design, there will be context specific problems. I don't envisage infrastructure like the red telephone boxes where they are all identical. They should be as available, but they might need to be designed for different purposes.
What are the benefits of water companies pushing this agenda? Welsh water is in a unique position in that it is not for profit.	Providing the water for free but there is still a cost to maintenance – potentially the waste industry is important too. There could be savings from having to collect the waste – there could be an incentive to reduce waste and possible financial support from waste and recycling companies.
Could partnerships be the solution? Bristol Water is a good example, Bristol/corporate/refill/council	The question about trust could actually be the answer – eg libraries, schools, train stations etc If these are trusted more then use this and put the fountains there first. They would be the partnerships to pursue first.
Do you think it would help or hinder to have water company logos on fountains, in terms of trust?	Probably help, but there will probably be lots of partners. Marketing and communication around the fountains is key – there needs to be a communication strategy
You mention a few other countries, Massachusetts, Paris, Athens etc. Since writing, have you heard of any good examples of cities which I can look into? (I will be visiting Paris to see the Richard Wallace Fountains)	In America – they have building codes which have to be adhered like sports centres or public swimming pools. You have to make the water appealing British library very inbuilt into their walls. Austria and Switzerland – good case study. And USA lots of anti-water bottle campaigning. They are campaigning on losing their historic fountains – they are moving forward with fountains. Progressive social vision in countries like Australia
Are there any different drivers to fountains which you think are important, other than environmental?	Definitely. And some are just as important as environmental. Access and equity to water is a big one. Looking at bottled water in terms of cost, some people can't actually afford to buy bottled water when they have to. Playgrounds – should all have drinking water fountains because there are links here to anti-obesity/ health and wellbeing. Social values, it's symbolic to access in open spaces. Health – heat stroke and the elderly Tube – they advertise to carry water they should have the responsibility to provide water.

	If there was a break down or heat wave etc it would be greatly needed. Public toilets are the same issue in a public/ social question. Social architecture is a phrase that London planning documents all reference. But toilets and water are the foundations of this and we don't see much of them at all. So social space is definitely a framing for this debate.

2. Paula Owen Interview

Questions	Answers
What are your links to the Plastic pollution problem?	Founder and CEO of Green Gumption, Environmental Consultancy. Judge for the Global Good Awards which has been all about plastic waste this year, Huffington Post blog writer, covering topics such as pointless plastic. Created a pointless plastics giant snakes and ladders game for engagement events.
Tell me about the campaign #pointlessplastic, how did it start?	Last autumn, Karen CEO of global good awards got in touch. This was before the episode of Blue Planet which changed the plastic agenda. Then there was a tweet from the BBC asking Paula to interview on the news about #pointplastics so it started that day. It took off that day.
Why did it take off?	Pointless plastic provided a place to rant and a channel to get the frustration out there about the plastic waste. People feel less powerless, it empowered people to start that conversation
Did you experience any backlash from the campaign?	Disabled people backlash. People needed oranges in segments etc. Another backlash was black plastic straws in the RITZY Brixton: people need the straws which bend because of movement in the straw. Potential for a ban on wetwipes - backlash on this because its difficult for people with small children or disabled incontinent people.

What is the aim of #pointlessplastic?	Change the tide on plastic. Change people's perspective of what is necessary and to change the manufacturing practices.
Can you give me a shocking example of #pointlessplastics	Award ceremony next week - forward me the link of the pics
Are there any supermarkets that are particularly culpable?	Marks and Spencer - cauliflower steaks was amplified by the campaign. They have now been discontinued
What positive stories have you seen/heard since the campaign?	The campaign prevented a balloon launch from a cinema chain due to a tweet storm on the hashtag. Bars are changing giving out straws as a result of the campaign
Any plastic stats, blogs or articles you know of on this topic which are particularly good?	WRAP
Only 50% of plastic water bottles in the UK get recycled. Do you know where the gap is here? Why is this happening??? What can we do?	Clear plastic which is high quality plastic - so it has high quality plastic and has a high price.
Obviously you haven't bought bottled water for years, have you found it easier lately to access tap water in public places?	Yes, it has got better but not from a public water fountain perspective, only in cafes
Do you use the refill App? Would you intentionally go to a café if it was on the App?	Yes I would go to a café if I saw them on the App
Would you/do you use a public water fountain?	no, there aren't any that I have seen in public places. Use them in gyms etc. Muswell Hill - sustainability group
Why wouldn't you/or other people use a fountain?	she would use one, no problem
Would you be more likely to use a public water fountain if it had the water company logo on it?!	Wouldn't trust it any more or less because of the logo - its all the same water
What we are seeing atm in the UK are small groups clubbing together to install water fountains (eg borough market), but are water companies the right people to push the agenda on a much bigger scale?	Potentially not the water efficiency team - are there sustainability teams or community engagement teams.

4. Paris Water Visit Report

Event:	Innovation Grant Research – Visit to Paris Water
Purpose:	To learn about Paris Water's water fountain programme
Meeting Date:	2-4th July
DCWW Representative:	Lydia Makin
Meeting Location:	Eau de Paris - 19 rue Neuve Tolbiac - 75013 Paris (salle Francine - 2ème étage)

Summary of the Meeting	
Paris Water Representatives	Fabrice Borea– Water Fountain Programme Manager Emmanuelle Marcovitch – Communication and Marketing Team – dedicated to the water fountain programme of work.
Key Points	• **Paris Water background**: most affordable water in France, strong mission for social justice and access issues relating to water. • **Fountain programme:** 1200 fountains in Paris – all quality checked monthly and maintained by Paris Water. • **Dedicated team:** 10 people for the fountain programme, plus 1 person in the Comms team, and contracted out sampling, maintenance and cleaning of the fountains. • **Drivers for the programme:** Homelessness and the culture of water as a public service. • **Fountain App:** Fountains embedded into a map of Paris. Integrates into google maps • **Future plans**: Secured funding to continue building more fountains, through a public vote on where to spend the city's money. Launched their summer comms campaign around "street art/graffiti" and have had street artists paint some of the old fountains and promoted the new sparkling water fountains.
More detail	
Fountains as a Public Service	• There is a big homelessness problem in Paris. This is the main driver behind installing and maintaining still more fountains. They are being situated in locations where homeless people tend to sleep. • In 2017 they started a scheme where they give out 7000 water bottles a year to homeless people to enable them to use the fountains. This will continue this year and in the future. • Paris has a rich history of fountains being donated to the city as early as the 16th century. The most famous being the Wallace Fountains. He was an English philanthropist who donated 100 fountains to the city. They were the main source of clean water for the inhabitants of Paris at the time. • As such there have always been people looking after them. This is a historical activity which Paris Water has "always done". The culture of water fountains is very prevalent in France.

Sparkling water	• They have 17 sparkling water fountains in Paris. • These were inspired by similar fountains in Milan. • They cost 50-60,000 Euros to build and 15,000 a year to maintain • The gas c02 canisters have to be changed every week and the usual cleaning of the fountains takes place too • They have had very positive feedback on these however. In a poll done with the public, they have seen a 70% increase in how the public views Paris Water, just because of these sparkling fountains. • They have improved the brand of the company and have got people talking, but they are very expensive and couldn't be rolled out more widely. • I was able to see inside one of these fountains, see picture below
Innovation	• Paris Water want to innovate further with the public fountains and plan to have a play area in the summer, where water fountains can be a source of fun and entertainment. They will be free and will consist of mist/sprinklers and water games/playground. This is not uncommon in French cities as they often have city beaches in the city squares. • This is to further improve the brand of Paris water and link water to fun and a way to cool down in the heat. They have used this idea from New York and think it will help to raise the positive profile of the brand and the value of water.
Challenges	• The main challenge has been the cost – securing budget has been a challenge. The usual set up is that the council buys the fountains and Paris Water maintains. They have not had a corporate sponsorship partnership as they are viewed as a public provision, not a corporate matter. It costs 20,000 euros to install a new fountain and 1000 euros annually for maintenance (obviously the sparkling ones cost more). • Location – they have had some problems with vandalism, especially in the fountains which look like vending machines and dispense refillable bottles, even though these are card only, and contain no money. The team advised against positioning them in parks which are open at night. But generally this hasn't been a huge problem, and they wouldn't consider this a barrier big enough to prevent continued installation. • Political issues surrounding locations as all the districts in Paris want more fountains and they have to be carefully considered so that they are in all areas equally.

Customer Trust	• They have worked hard on creating a brand to publicise the fountains. • They have a culture of fountains in the city and as this is historical, usually the trust levels are high. • However, they did agree that the older more ornate fountains have less trust levels with the public. This is because people think that they are ornamental or that the water is recycled through the fountain, like some aesthetic water fountains are. The confusion is worsened by the fact the water in the old Wallace fountains is constantly flowing. • Paris water have invested in a labelling system which clearly shows that the fountain is for drinking and it is quality checked by the company. • The website shows in great detail the quality and composition of the water at each fountain.

Additional Benefits of visiting Paris	
Filming	• To feedback my research to the Innovation/Environment/Marketing teams I have opted to create a short film about my findings. • Luckily for me, my mum was able to fly out to Paris and stay with me to help with the filming part of the project. • We used the time to summaries the meeting with Paris Water into a series of short clips. We also filmed me finding and using the fountains and speaking to camera about what DCWW can learn from my visit to Paris. • I have now filmed in Glasgow, London and Paris and I intend to edit this video once I have filmed in Bristol (the last city left on my research project). • I will put a link to this short film on all reports and presentations I give on the subject area.
App testing	• I downloaded the App and tested the functions • It worked well in that it linked to google maps and uber to give me directions to the nearest fountain. See photo below. • And I later fountain that it must have linked with my google maps app because the fountains then appeared on my normal google maps too. Very useful. • However, it was a bit of a wild goose chase, as the first 2 fountains I couldn't locate in real life and the third on was in disrepair. See photo below. • The fountain should show up as red on the app/map if it is out of order or has failed a quality sample, but this one was not. • The fourth fountain on the map I found successfully, and I had been walking for about an hour at this point and actually did need a drink! • So they obviously haven't ironed out all the problems with the App yet.