



What is a fatberg represented to be?

The handling of an environmental problem by Thames Water

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Abstract

This paper explores the problematisation of fatbergs (mixtures of fat, oil and grease that have solidified upon melding with a plastic containing item, typically wet wipes, in the sewers) by Thames Water, the private company that manages the sewerage system in London. This research was completed using the “what is the problem represented to be?” approach to critical discourse analysis. Data for analysis was gathered through eight interviews from actors in both the water and wet wipe industries, as well as documents produced by Thames Water and governmental bodies of the water industry. The concepts of social class and nonperformativity were applied to the findings in the discussion stage. The main findings are that the current approach to dealing with fatbergs by Thames Water passes the responsibility onto their customers using education and enforcement campaigns, obscuring larger issues in the water supply network and with the company itself, such as the financial pressures of the industry and the ageing infrastructure the company has responsibility for. These campaigns focus on certain groups, notably lower social classes and children, as targets to be educated. There is also confusion about the issue throughout the industry, as it remains a somewhat hidden problem, which is further complicated by the issue of ‘flushability’ and wet wipes. Furthermore, Thames Water faces a barrier in any action it takes, as there is a significant lack of trust toward them.

Keywords: Fatberg, Thames Water, discourse analysis, wet wipes, sewerage, waste water management

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Abbreviations

AMP	Asset Management Plan
CDA	Critical Discourse Analysis
DEFRA	Department for Environment, Food, and Rural Affairs
DWMP	Drainage and Wastewater Management Plan
FOG	Fat, Oil and Grease
ODI	Outcome Delivery Incentives
WPR	What's the Problem Represented to be
WRC	Water Research Council
WSS	Water Supply System
YWS	Yorkshire Water Services

1. Introduction

The following research will explore how Thames Water, the privatised water company that provides water for 10 million people, and removes wastewater for 16 million, across London and the Southeast of England (Thames Water 2023c), deals with the environmental problem of fatbergs. ‘Fatberg’ is a term coined by the company itself (Wallace et al. 2017) to describe a spectre haunting the world’s sewers. These are conglomerates of fat, oil, and grease (FOG) that have bound themselves to an item that has not broken down in the sewer- typically a wet wipe (also known as ‘nonwovens’). These are found in 93% of sewer blockages in the UK (Drinkwater & Moy 2017). While fatbergs are an international and well-established problem in sewerage networks (Wallace et al. 2017, Mitchell et al. 2020, Court et al. 2021), they have not thus far been studied through the lens of communication. This is despite Thames Water and other water companies in the UK taking measures against fatbergs through the means of public communication and customer education. Numerous campaigns have been launched by stakeholders in the water industry to educate customers on what cannot be flushed or poured into the sewers, with the aim of reducing the amount of both fat and grease and wet wipes entering the sewerage system. Examples include the national “bin the wipe” and “unblocktober” campaigns. These education efforts are also a feature of the international water industry, such as the Responsible Flushing Alliance in the USA, and Sydney Water’s “Can’t Flush This” campaign in Australia.

Fatbergs pose a severe environmental threat. The buildup of these blockages causes damage to properties through internal sewer flooding, as well as reduction of water quality (Wallace et al. 2017), and the destruction of aquatic biomes through the reduction of oxygen available for freshwater life (Court et al. 2021). Blockages are the most frequent cause of flooding in the area managed by Thames Water, with blockages caused by fat and grease, and ‘rag’ (improperly flushed items, mainly wet wipes) responsible for much of this flooding (Thames Water 2023c). This issue has risen to national importance in the UK. The Chief Medical Officer of England and the heads of the country’s Environment Agency and the national water regulator, Ofwat, released a joint statement over their concerns that without proper management, fatbergs will overwhelm the system, leading to the discharge of raw sewage and bacteria into watercourses and drinking water across the country

(Department of Health and Social Care 2022). Other research has demonstrated that wet wipes, which make up a huge amount of the actual content of fatberg blockages (Water UK 2017), persist on beaches in the UK as reservoirs of E-Coli bacteria (Metcalf et al. 2024). This has been presented as an ongoing public health crisis, and one that is likely to escalate (Buse & Bayliss 2022).

Thames Water's handling of their fatberg problem is the focus of this study as London has produced some of the most well publicised and largest fatbergs on record, such as the "Whitechapel Monster", a blockage measuring more than 250 metres and weighing in at more than 100 tonnes, discovered in East London in 2017 (Michael 2020a). Whilst blockages have been an issue in the sewerage system of the city since its construction began in the mid-1860s (Sunderland 1999), they have rarely, if ever, caused such a stir in the public sphere, with fatbergs riding a wave of publicity since the mid-2010s (Michael 2020b). Another reason the London sewerage system and those who manage it is a pertinent study site is London's position as a highly populated, global city, but one without the same legislation against sewer misuse that other cities of similar development have in place- such as comprehensive laws requiring the installation of grease traps for the food industry (Engelhaupt 2017). For example, authorities in the city of Dublin, Ireland, collaborated to pass and enforce legislation ensuring that food outlets had working grease traps, with the result being significantly less fatberg blockages (Wallace et al. 2017).

The final, and pivotal reason for choosing Thames Water as the organisation whose communication will be analysed is due to its status as a privately owned, for-profit company. The Water Supply System (WSS) in England and Wales was privatised and split into nine companies in 1989 (Bakker 2011). This choice of governance has come under increased scrutiny on a national level in recent years (Buse & Bayliss 2022). None of these companies has come under more fire than Thames Water, with a significant amount of journalism dedicated to the company's financial troubles- the most recent wave of press in March 2024 speculating on their potentially impending insolvency (Lawson et al. 2024). The company is frequently targeted as the worst performer of the WSS companies in both environmental terms- dumping the largest amount of raw sewage into watercourses (Laville 2022), and financial terms- the highest levels of debt of any of the companies (Lawson et al. 2024). This makes the company's handling of fatbergs a prescient research topic.

1.1 Problem Formulation

As fatbergs are treated as a communication problem the world over, it seems rational that they should be studied through the lens of communication. Indeed, as

fatbergs are so hidden from us in everyday life due to their position in the sewers, the discourse created around them is the only experience the vast majority of people will ever have with them. Most of the communication about fatbergs to the public globally appears to be based on the idea that education of system users will lead to the behavioural changes that will eliminate fatbergs (Wallace et al. 2017).

In the UK context, this can be seen in national campaigns such as Bin the Wipe, a campaign by Water UK, the trade body that represents all water providers in the country: this campaign encourages everyone in the UK not to flush wet wipes down the toilet, but rather dispose of them in dry waste. A further campaign is Unblocktober, an initiative run over the month of October by Lanes Plc., the largest independent wastewater contractor in the UK, in association with water companies and environmental non-governmental organisations. Unblocktober asks individuals and businesses to pledge not to cause blockages in the sewerage system by avoiding inserting plastics and FOG into the system.

Thames Water itself has similar policies to encourage their customers to act likewise. Namely, to stop flushing anything that is not one of the “three Ps” (pee, poo, and toilet paper), and collecting household grease (Thames Water 2020). However, these behavioural changes are notoriously difficult to achieve, especially when it comes to longer term environmental problems (Whitmarsh et al. 2011). Due to the seeming increasing crisis of fatbergs facing the UK’s WSS, and Thames Water in particular, the efficacy and implementation of strategies against fatbergs are worthy of study.

1.2 Research Questions

How does Thames Water represent the problem of fatbergs in its sewerage networks through its own discourse?

How does Thames Water’s status as a private, for-profit company influence this discourse?

Do Thames Water’s discourses around the problem of fatbergs differ from other stakeholders in the water industry, and in what ways?

2. Existing Research

I will now briefly summarise the existing research on three topics that situate this thesis in the landscape of academic research. Firstly the privatisation of the water industry in England and Wales will be discussed, before examining Thames Water specifically, followed by the research into the phenomenon of fatbergs.

2.1 The English and Welsh Water Industry since Privatisation

The water sector in England and Wales was privatised in 1989 by the Thatcher government, under the guise of improving efficiency and investment (Bakker 2000). This has been viewed as a “political and ideological move”, as the state-run water institutions were forbidden by the government to borrow funds needed to update ageing infrastructures, rendering them deliberately not fit for purpose (Juuti et al. 2007:247). In recent times, this privatisation has come under further fire, accused of putting profits for water company shareholders over the needs of people and the environment (Buse & Bayliss 2022).

A key text in the understanding of the water industry in the UK is the analysis of the 1995 Yorkshire drought by Bakker (2000). In this paper, the drought, described as “the most extreme climate event faced by the English and Welsh water industry since its privatisation” (ibid:4) is understood as a production of scarcity by Yorkshire Water Services (YWS), the private company (therefore equivalent to Thames Water) that managed the WSS in the affected area. This was, in Bakker’s understanding, a part of the economic model that underpins the privatisation, as despite the lack of rain, the “assumption of stability” embedded in their business model (ibid.:16) meant that the company did not add capacity to water storage facilities. Furthermore, when usage restrictions were placed on customers by YWS, customers were reluctant to comply due to distrust of the company (ibid.).

This issue of distrust in the private water companies is also raised in the work of journalist James Meek (2014) wherein he implies various water companies in England refuse to collaborate with the public to explain their failures when it comes

to flooding and water outages. This work also ties the financialisation of the water system to larger processes of privatisation of public services across the UK, such as the National Health Service, and public transport through the sale of railways (ibid.).

These works, in both the academic and journalistic fields, expose a hostility toward the water companies. I believe this is important to consider given most of the evidence I have found in terms of tackling fatbergs relies on the public adhering to the demands of Thames Water.

2.2 Thames Water

Thames Water was established as a private company in 1989 to serve the water and wastewater needs of those in the most densely populated area of the UK. It is currently responsible for delivering sewerage services for 16 million people- “customers do not have a choice of supplier” (Thames Water 2023c:3) either, making the ability of Thames Water to deliver this service successfully pivotal. The privatisation of the system has reduced the ability of those in Thames Water’s service area to negotiate or demand change, as there is no longer a democratic public process in place as there was pre-1989 (Castro et al. 2003). This makes looking critically at their policies vital for a functioning water system.

Due to this lack of democratic involvement, it has been argued that Thames Water is not so much invested in the delivery of high-quality water services, but rather in the creation of wealth for their shareholders (Loftus & March 2019). In essence, they turn those dependent on their services into “human revenue streams” (Allen & Pryke 2013:422) for their investors. These investors know that water is a stable service to invest in- everyone will always need water- and therefore the majority shareholders in the business are pension funds, who are provided with dividends taken from Thames Water’s profits (Loftus et al. 2019). However, the research also argues that there is a newer process driving the way which Thames Water generates profits- this has been called ‘financialisation’ (Allen & Pryke 2013). This means that the profits generated by Thames are moving even farther away from the provision of water itself, instead through financial engineering they sell the interest on the loans taken for infrastructure projects, such as the Thames Tideway Tunnel (Loftus & March 2019). This shift demonstrates a potential lack of interest from Thames Water in improving the infrastructure they have, and rather a focus on generating profits (ibid. 2019). This has been the case for a long time, according to the research, in 2003, Castro et al. already found that Thames Water had higher levels of leakage and lower levels of sewerage workers than other

companies, as well as a preference to exploit new resources rather than repair old ones.

However, this approach may no longer be serving its initial purpose for Thames Water. Due to the structure of the water system in England and Wales, companies that fail to meet targets are not allowed to pay dividends - redistributed profits - to its shareholders (Bakker 2000), and due to their failings, this is something Thames Water have not been able to do since 2017 (Laville et al. 2023). Thames is also in charge of one of the oldest sewerage networks in the world, and one that has been plagued by leakages, failures, and environmental problems since its inception (Sunderland 1999). Not least of these is the fact that London still has a combined sewerage system, meaning that rainwater and sewage ends up in the same network, which as a result is regularly overpowered, leading to the discharge of raw sewage into watercourses, something which happened more than 5,000 times in 2021 (Laville 2022). This suggests that while the issues of Thames Water are not new, they are exacerbated by the way they are currently managed. Thames Water not only face financial troubles, with a sky-high level of debt (Laville et al. 2023), consistently faulty infrastructure (Chinneck 2018), and a struggle with customer trust (Allen & Pryke 2013)- but also the challenge of fatbergs, which will be discussed in the next section.

2.3 Fatberg Research

Research into fatbergs tends to focus on them as a biological issue. An example of this can be found in Court et al. (2021), profiling the chemical makeup of fatberg samples in the UK. Other such research papers include the molecular profiling of FOG in the USA (Gross et al. 2017), and the measurement of chemical changes within FOG in sewer blockages at different points in the sewer (Nieuwenhuis et al. 2018). These papers suggest different ways of removing fatbergs after they have formed, through producing chemicals that will dissolve them, or recreating their makeup in a laboratory setting (Court et al. 2021, Gross et al. 2017). This method of treating fatbergs rather than preventing them is also found in research about wet wipes and plastic containing products in the sewerage system, such as Mitchell et al.'s (2020) review of nonwoven plastics in water treatment plants in Berlin.

Research into methods of preventing or reducing the number of blockages that fatbergs cause is more limited. The international review of fatberg management from Wallace et al. (2017) describes the prevalence of public awareness campaigns

about fatbergs as the primary way to combat their formation globally. Tellingly, the research states that “although it is assumed that these campaigns have a positive outcome, there is little published information to endorse this.” (ibid.:430). This is often the case in other communication campaigns for environmental problems in the UK, as Whitmarsh et al. (2011) found with their research into how government bodies develop strategies to change people’s behaviour toward “climate friendly” actions (51). While in Sweden and Norway, research into the efficacy of legislation requiring the installation of grease traps was believed to be enough to combat the issue of fatberg formation by those in the water sector, despite the lack of efficacy monitoring (Mattsson et al. 2015). Furthermore, exploration into consumer behaviour about the flushing of nonwovens found that a main issue was confusion around whether products were in fact safe to flush due to ambiguous packaging (Karadagli et al. 2021). A fix suggested for this issue is better labelling of products (ibid.).

Overall, this demonstrates not so much a research gap, but rather a blind spot. Fatbergs are not a scientific blind spot, as there is extensive research into the materials that form them, and how they act once they are in sewerage systems. The work of Alda-Vidal et al. (2020) seeks to put ‘unflushables’ on the global agenda, concluding that “despite increasing awareness as to the scale of the problem, there are considerable efforts still needed to develop deeper under-standings of how this problem has emerged and how it is maintained” (11). This is an emerging field of research, and this is one that this paper can contribute to. The issue seems in part to be that the current efforts to dissuade people from putting these materials into the system itself are simply assumed to work, and a closer inspection of the actual functioning of the communication campaigns around fatbergs will be needed. Another paper that goes beyond both views is that of Michael (2020b) who instead explores the fatbergs of London as an emotional and symbolic force, one that can both represent the wider decay of parts of the city, as well as evoked emotions such as respect (for those whose job it is to remove the fatbergs from the network) to disgust and horror.

3. An Overview of Technical Terms

This section breaks down the technical knowledge needed to fully comprehend this research, such as the makeup of the nebulous water industry in the UK, which employs more than 60,000 people. Also discussed is the background behind the production of the 2025-2030 Thames Water business plan, a key text in the later analysis.

The water industry in England and Wales is obliged to submit their plans for the systems they manage every five years for approval by Ofwat, the financial regulator of the industry. These plans outline detailed targets, and the investments need to meet them. The plans are referred to as Asset Management Plans (AMP). The period from 2025-2030 falls under AMP8. Thames Water AMP8 was published in October 2023, under the name “Our Business Plan” and will come into effect in April 2025, following the start of tax year in the UK. These plans are complex, and in theory lead to the water companies working to make the best of their investments, as if they fail to meet the targets set, they will be fined, while if they exceed targets, they are financially rewarded. This system is known as “outcome delivery incentives” (ODI), with rewards known as “outperformance payments”, and fines as “underperformance payments” (Ofwat 2024). However, it has been argued that instead they lead to companies focusing more on negotiation rather than managing the WSS effectively (Bakker 2000). AMP8 has been heralded by Thames Water as their most ambitious plan yet, involving more than £18 billion of expenditure across the company (Thames Water 2023c). Despite these ambitions, questions have been raised by journalists and investors about Thames Water’s ability to deliver on these promises (Lawson et al. 2024). Thames Water themselves have also admitted the targets that they have set themselves from the previous AMP will, in some cases, not be achieved (Thames Water 2023c).

In total, more than £4 billion of the £18 billion mentioned above is scheduled to go toward wastewater management (ibid.). Of this, reducing the number of internal and external sewer flooding incidents has been identified as an outcome that Thames Water must achieve with this funding, lest they be punished financially as described above. These flooding incidents are overwhelmingly caused by fatbergs blocking up sewers, causing them to reach capacity and overflow either inside properties (internal sewer flooding) or onto roads and gardens (external sewer flooding) (Thames Water 2023b). The company has acknowledged the importance of this outcome to their customers (Thames Water 2023c).

The functioning of the privatised water sector involves the collaboration of many actors, and their roles will here be described in relation to their roles in the management of the sewerage system. These range from the government departments of the Environment Agency, who monitor water quality of outfalls (where sewers discharge into other watercourses), and the Department for Environment, Food and Rural Affairs (DEFRA), who are ultimately responsible for legislation in relation to both the management of sewers and wet wipe's flushability. There are also non-governmental organisations, such as the economic regulator of the water industry, Ofwat, who both agrees the acceptability of plans such as AMP8, and the system of financial rewards and fines as described above and in Bakker (2011).

In addition, there is also a trade body for all water providers in the UK, whether they are publicly managed or privately owned. This is WaterUK. This body works to publish press releases and informs government policy towards water across the UK. They are important to this research project as a key link between the government, the wet wipe companies, and the water companies. WaterUK is also responsible for the national communication campaign 'bin the wipe', which encourages those in the UK not to flush wet wipes and other items that cause blockages. Furthermore, they are currently responsible for the 'fine to flush' scheme, which tests and certifies which wet wipes are suitable to be flushed, as they are tested by the Water Research Council (WRC) to ensure that they break down in sewers sufficiently to avoid blockages. However, this scheme is set to be phased out over the next three years, with the responsibility passing from voluntary accreditation into legislation that wet wipe producers will need to follow to market their products.

4. Theoretical Framework: Critical Discourse Analysis, Social Class, and Nonperformativity

The theoretical and methodological framework for this thesis will be Critical Discourse Analysis (CDA). As CDA seeks to make the underlying structures that shape society visible (Jørgensen & Phillips 2002), it seems pertinent to apply this methodology to a problem such as fatbergs, which as previously mentioned, are literally hidden from everyday life by their subterranean position in the sewerage system. Discourse analysis functions on the basis that language- not just what is being said, but who is saying it and in what manner they say it in- is central to the functioning of society (Robson & McCartan 2016). Discourse analysis in relation to environmental problems can help us to understand how and why certain views of an environmental problem become dominant at the expense of other potential understandings (Bakker 2000). Within CDA, it is understood that discourses both shape society and are shaped by it- they are both constitutive of, and constituted by, the social relations they exist within (Jørgensen & Phillips 2002). Meaning that the discourses around fatbergs are not created in isolation from social conditions.

To do this, I will use a specific branch of CDA, the “what is the problem represented to be?” (WPR) approach, as presented in Bacchi’s (2009) work of the same name. The primary hypothesis of WPR is that we as societies are governed not by policies, but by ‘problematizations’ (ibid.). By working through the problematisation at hand, the aim is that the researcher will be able to identify the way that a problem has been created, by who, and the reasons why this problem has come about (ibid.). In this research the problem at hand is fatbergs, and while the principal ‘who’ that will be focused on is Thames Water, we must also examine the company within the wider water sector. Bacchi proposes six questions to get to the heart of a problematisation, and I will focus on four of these questions which I consider most pertinent to the issue of fatbergs, as listed below:

1. What’s the ‘problem’ represented to be in a specific policy?
2. What presuppositions or assumptions underlie this representation of the ‘problem’?
3. How has this representation of the ‘problem’ come about?

4. How/where has this representation of the 'problem' been produced, disseminated and defended? How could it be questioned, disrupted and replaced? (Taken from Bacchi 2009:2)

These questions will help me to form a clearer picture of the underlying assumptions that shape how fatbergs are viewed by Thames Water, and how they seek to communicate this to the public. By using WPR, I seek not to condone or condemn the practices of Thames Water, but rather to assess what 'truths' are being used by Thames Water and those in the sector in how they discuss fatbergs. It is key to the approach that one does not come in with the intention to argue for or against a position, but rather seeks to identify what is being taken for granted- how something is made into a problem (Bacchi 2012). Returning to the point that discursive practices both shape society and are shaped by it (Jørgensen & Phillips 2002), WPR tells us that policies do not solve problems, but instead give them shape (Bacchi 2009). In this way I will look at how Thames Water defines the parameters of the issue of fatbergs within its sewerage system.

It is clear from the above that WPR draws on the importance of power, as the ability to decide what becomes a problem and how the problem is defined makes policies incredibly influential- "powerful fictions" as Bacchi puts it (ibid.:35). WPR understands power in the vein as Foucault (ibid.). Foucault argues that power can be found everywhere and is therefore embodied in the discourses of everyday life (Foucault & Gordon 1980). This is important to the research as it allows us to consider who has the power over the sewerage system and its functioning- Thames Water themselves acknowledge their role as providing "life's essential service" to 16 million people (Thames Water 2023c:25). These ideas of power are therefore very pertinent to apply to my research problem. As we have seen from the current view of fatberg literature, there is a gap when it comes to the politics of the issue, and as WPR seeks to make politics visible (Bacchi 2012), it fits this gap snugly.

To make the politics of fatbergs more visible, I will also be examining the importance of social class in the discourses around them. Social class is difficult to pin down as a concept, in part as much like discourse, it too is created within its own cultural and social context (Day et al. 2020). The basic idea is that there are two essential social classes- those that sell their labour and those who profit from this labour (Jørgensen & Phillips 2002). However, this is based on the ideas of Marx, and it has been suggested that his work is too strongly located in the times he wrote in - instead, its suggested that now, social class is more defined by consumption rather than production (Day et al. 2020). No matter how it is defined however, the common agreement is that those in the upper classes have an easier existence than those in the lower classes - inequality is what drives the distinction between social classes (ibid.). However, in Britain, there is a reluctance to reference

class explicitly, but rather to do so morally - this not only serves to hide the structural and economic causes of inequality, but also portrays the lower social classes as 'bad' or at fault (Marsden 2024). Marsden also finds that the working class are often portrayed as the reason behind the decline living standards across the UK since austerity- there is an idea uncovered through his own critical discourse analysis of British newspapers in recent times, that it is those who require the help of the state that are responsible, rather than those in power (ibid. 2024).

This obfuscation of inequality and social class is of interest to this research as I wish to uncover the assumptions that lie behind the problematisation. As class is an ever-presented but oft-unacknowledged force shaping so much of life in the UK, with researchers finding that social mobility is very low, especially after the successive 'austerity' pushing conservative governments since 2010 (Marsden 2024, De Pian 2012)- it seems to me to be something that should be considered in any analysis of a problematisation in modern Britain. It is especially pertinent to any CDA, as to be critical, one must have an eye on the power imbalances (Jørgensen & Phillips 2002). The discussion will therefore return to these ideas, especially the focus on the poor morals associated with the working class, and the idea that it is those who rely on services who are responsible for the failings of these services.

The final theoretical concept I wish to bring to this paper is Sara Ahmed's notion of nonperformativity (Ahmed 2012). This idea posits that on occasion the naming of a problem, rather than seeking to solve it, rather seeks to conceal it in new ways (ibid.). While her work focuses on nonperformativity in terms of anti-racist policies, the idea of a "new approach to the relation between texts and social action... which still considers texts as actions, which "do things," but it also suggests that "texts" are not "finished" as forms of action, as what they "do" depends on how they are "taken up." To track what texts do, we need to follow them around" (Ahmed 2006:105) is one that may be applied elsewhere. What she finds is that in creating the texts that promote diversity at higher education institutions, these institutions consider their issues solved, that commitment to resolving deep-seated issues of racism in universities is considered solved through a "checkbox" approach- for example, "“doing well” is presumed to be something that can be measured, distributed, and shared (Ahmed 2012). An anecdotal example mentioned by one of my interviewees was of a university that had as its target that 100 percent of its staff be diversity trained; it then put diversity training online so it could meet this target." (ibid.:106). In this way, no practical work has been done to solve the issue, but the performance solving it has been completed- giving the impression of action.

In terms of the application of this theory to my research problem, I wish to explore how the problem of fatbergs can be considered solved through similar box-checking exercises. In essence, I wish to explore if the water sector is working toward the elimination of the blockages caused by fatbergs, or simply invested in creating a view that they are in fact ‘doing’ something about the issue. While Ahmed uses this approach on higher education institutions, it can be applied to other organisations’ public facing communication campaigns, uncovering “an institutional investment in image management” as Bury found in their analysis of the English Football Association’s action plan on homophobia (2015:221). As the use of nonperformative action seeks to generate trust (Ahmed 2012), this ties into Bakker (2000) and their findings that without trust, the advice of water companies are likely to be ignored by the public. This concept will also be returned to in the discussion section.

5. Methodology

WPR presents a systematic method for analysing problematisations (Bacchi 2009). This method will be applied to Thames Water's handling of fatbergs in the sewerage system. WPR is a form of discourse analysis. Discourse analysis makes three central claims about the way the world is constructed, as follows:

“First, people actively create accounts on a basis of previously existing linguistic resources. Secondly, they are continually and actively involved in selecting some of the infinite number of words and meaning constructions available, and in rejecting others. Thirdly, the chosen construction has its consequences: the mode of expression has an effect; it influences ideas, generates responses, and so on.” (Alvesson & Sköldbberg 2018:483-484).

Therefore, discourse also doesn't simply mean what people are saying, although as it has grown in popularity as a term, it has come to be used in this fashion (Bacchi 2005). Through engagement with discursive practices, one can engage with language within the wider context in which it was produced; a discursive practice links the discourse with social practices (Jørgensen & Phillips 2002), taking the analysis beyond what is being said. From this viewpoint, I will investigate not simply the texts and speech I have collected but also interrogate the conditions that the discourses were created under. The issue of power is important here, as for the research to be considered 'critical' it should seek to address some kind of imbalance or power inequality in society (ibid.). In this case, the analysis will take into account the implicit assumptions present in the documents and interviews analysed. To do this, I will explore why certain words and phrases are used in the materials collected, and the responses these hope to generate.

This focus on assumptions doesn't end at the point of the texts and interviews I have analysed. This means that I, as a researcher, also must be aware of my own language use and construction of meaning. As a researcher carrying out CDA must be aware, “even the language that we take to be the most “natural,” ... does not “have” universal meaning but is assigned particular meanings by both speakers and listeners according to the situation in which language is being used.” (Cheek 2004:1144). This means that the analysis is inherently skewed by my own understandings of the world.

However, it should be noted that these biases are inevitable in qualitative research (Robson & McCartan 2016). In fact, Bacchi encourages those using WPR to choose a policy area that they are interested in (Bacchi 2009). I believe in being aware of my own biases and allowing the framework of WPR to guide the analysis,

I have taken due diligence to not fall into a trap that sometimes affects those working with CDA, stretching the analysis too far and finding things that are not there (Jørgensen & Phillips 2002).

To identify themes in the texts and interview transcripts I have collected, I used a simple system of coding. First, I read through the documents I wish to analyse, to check their suitability and familiarise myself with their content. As I transcribed my interviews by hand, I did not do this with them, as I was familiar with their content by the end of the transcription process. Then, for both sets of materials, I used a highlighter- in some cases physical pen and paper, such as for the longer Thames Water documents, e.g. the business plan, and others digitally, compiling quotes I thought were interesting and would prove useful to answering the four questions chosen from WPR. I then compiled these quotes into a single document, being sure to keep the attribution clear, and from there, drew out the themes used in the analysis section.

5.1 Materials Used

The following is a list of the materials used in the analysis. This is divided into two sections, the texts analysed, and the interviews I carried out in support of this analysis.

Policy documents:

These can also be found in the bibliography of this paper, and at time of writing, are all publicly accessible. They are as follows:

Thames Water:

- Our Business Plan (AMP8)
- Our AMP8 Wastewater Outcomes Delivery Strategy
- Our AMP8 Customer Strategy
- Drainage and Wastewater Management Plan (DWMP) 2025-2050
 - Appendix A: Strategic Context
 - Appendix H: Customer Engagement

DEFRA:

- Expanded Storm Overflows Discharge Reduction Plan (September 2023)

WaterUK:

- Wipes in Sewer Blockage Study: Final Report

Interviews:

Eight interviews were carried out with various informants within both the water and nonwoven sectors. Due to some informants' requests for anonymity, all have been

pseudonymised. The basic interview guide used for these interviews is attached as ‘appendix i’. The informants are as follows:

- Two Thames Water workers who are directly involved in the company’s sewer management. These informants are referred to within this paper as “the repairer” and “the protector” in order to reflect their roles within the company.
- An environmental consultant, who has more than twenty years of experience within the water sector, and who has previously carried out educational projects for Thames Water. This informant is referred to as “the consultant”.
- An economist with WaterUK, a trade body that brings together all of the water companies, both privately and publicly owned, across the UK. They are referred to as “the economist”.
- An employee of a small environmental non-governmental organisation that works to improve water quality in the River Thames. They are referred to as “the environmentalist”.
- The CEO of an NGO that promotes water saving strategies across the UK, with more than 20 years of experience in the water sector. They are referred to as “the NGO CEO”.
- A consultant for the international conglomeration of nonwoven producers, with 30 years of experience in the field of science communication. They are referred to as “the nonwoven expert”.
- The sustainability director of a plastic free wet wipe company. They are referred to as “the wet wipe manufacturer”.

As these actors are diverse, they provide a wide-angle view of fatbergs and the ways in which Thames Water problematise them. While there are certainly gaps in my interviewees- for example, I was not able to secure an interview with a worker from Ofwat, the financial regulator, who would have been able to provide more context for Thames’ financial difficulties, or someone from DEFRA, who would have been able to provide more clarity over future legislation of wet wipes overall. However, as this is a comparatively small project in terms of time frame, the fact that I have been able to secure viewpoints from such a range of stakeholders is a strength.

6. Analysis

This analysis will first answer the first question of Bacchi's WPR - *what is the problem represented to be?*, while the other three will be answered in the discussion section. Then moving on to focus on five themes which became clear through my coding of material, as described in the methodology section of this paper. These five themes are: *education and enforcement, the issue of the sewer infrastructure, the financial underpinnings of the issue, the issue of trust for customers, and finally confusion over responsibility over the problem.* These themes are all of course intertwined, but will be divided into sections here, before being brought together in the discussion along with the concepts of social class and nonperformativity from the theoretical framework, with the aim of answering my research questions.

6.1 What is the Problem Represented to be?

To establish what the problem is represented to be, we must look directly at the published sources from Thames Water. Blockages are stated to be an issue as they cause internal and external sewer flooding, which in turn is reported as *"by far the worst service failure for customers, who see preventing sewer flooding as a top priority."* (Thames Water 2023b:5). As the protector from Thames Water put it *"It's very easy to get lost in terms like internal flooding and, and think of it as a statistic, after a while, but, behind every single flood is the fact somebody's home has sewage in it."* Furthermore, as seen in Table 1 below, the majority of these blockages can be attributed to fatbergs, either as FOG as the primary cause, or Paper and Rag (the phrase used to describe wet wipes and other plastic containing items).

In Table 2 we can also see that the number of fatberg blockages has also remained almost the same over the six business years that AMP8 references as a baseline. The overall number of blockages, as seen in Table 1, has in fact increased slightly. Despite this, the plan promises that there will be a 17% reduction in internal sewer flooding events over the five years from 2025-2030 (Thames Water 2023c). We must therefore investigate how exactly this will be achieved. The problem is represented as being tackled, but thus far, there has been little in the way of progress in terms of the actual number of blockages.

To achieve this goal of reduction, Thames Water has produced six forms of action. These six forms of action are as follows: faster response speed when called out to a blockage, digitisation of the sewerage network- placing depth monitors in

the sewers to ensure sewage levels aren't too high, customer education, removal of antiquated equipment from narrow sewers, the creation of a virtual alarm system—using algorithms to detect ‘unusual’ behaviour in the network, and working with planners and local government to reduce the amount of impermeable surfaces in the Thames Water region, slowing and reducing the amount of rainwater that enters the combined sewerage system (Thames Water 2023c).

These six actions, while first introduced in the main business plan, are expanded upon in the appendixes of AMP8, as a part of the “*wastewater outcomes delivery strategy*”, with the goal of customer education further expanded within the “*customer strategy*” appendix. These six actions can be simplified further, as the goals of the virtual alarm system and the depth monitors both rely on technical fixes to the blockage issue. Meanwhile, the removal of the antiquated interceptors from narrow sewers, and the creation of more permeable spaces to slow rainwater’s entry into the combined sewer can be viewed as infrastructure fixes. These other fixes will be explored further later in this analysis. By far the most space in the Thames Water documents is reserved for discussion of the customer education. Before moving on to discuss the concept of customer education, I wish first to mention how this education is framed.

Thames Water repeatedly presents the issue of sewer flooding through the eyes of the customer— the phrase “*they [the customers] view sewer flooding as the worst service failure, by far*” appears in all the AMP8 documents analysed (Thames Water 2023b, Thames Water 2023b, England 2023). Meanwhile, the appendix on customer engagement for the 25-year plan, the DWMP, details Thames’ engagement directly with customers to establish what their “*priorities*” are when it comes to wastewater management (Thames Water 2023a). In this way Thames presents itself as merely acting according to the whims of customers, without explicitly referencing that they also have targets set by the regulators and will receive an underperformance ODI if they do not adhere to industry standards.

Indeed, we can compare the number of uses of the word “customer/s” in the body text related to sewer flooding, which number 57, compared to 9 uses of either “regulator/y” and “Ofwat” in the same text (Thames Water 2023b). This suggests that Thames Water wishes to present the problem of fatbergs as being a problem of customer care, rather than, say, of infrastructure or economics. This idea was supported through my interview findings too. For example, when asked about changes in the water sector through their 25 years of experience, the NGO CEO said: “*So it used to be that it was all about the economics and the bills, then there was a whole big thing around “oh actually the customer, we should put the customer in the mix,” and it was very very customer-led for a long time.*” In this

way, Thames places the customer at the centre of the problem from the offset. They are the reason that the problem of fatbergs must be solved.

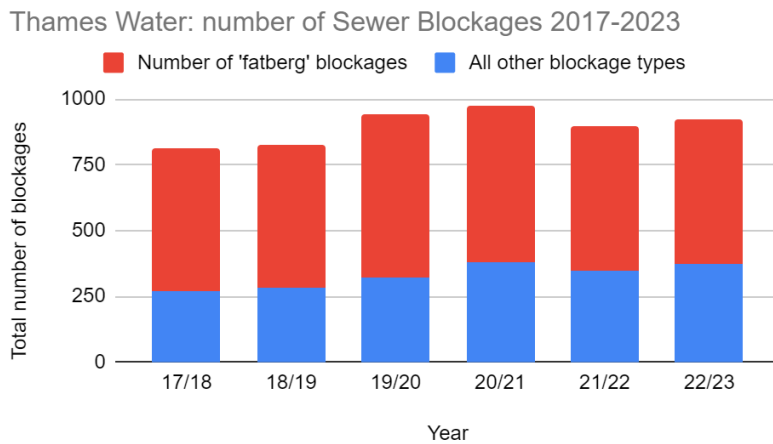


Table 1: proportion of sewer blockages attributed to fatbergs in the sewer networks (Fats oils and greases, and paper/rag blockages) Source: Adapted from AMP8 Wastewater Outcomes Delivery Strategy (Thames Water 2023b).

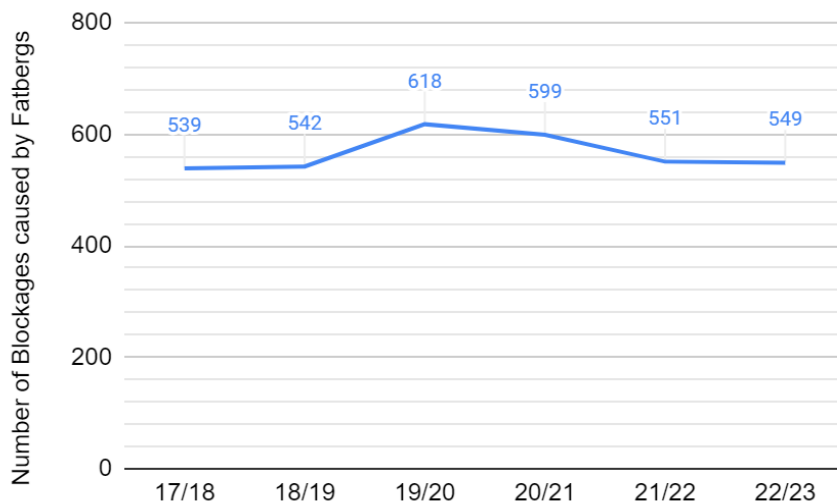


Table 2: Total number of blockages caused by fatbergs. Source: Adapted from AMP8 Wastewater Outcomes Delivery Strategy (Thames Water 2023b).

However, the customers are also at the centre of why fatbergs are a problem for Thames Water in the first place. This is shown in the data Thames Water have gathered from customers, as of those who took part in focus groups for the DWMP, 53% were found to strongly agree with the view that “Customers have a role to play in helping avoid problems with the wastewater system by not putting items

down sinks or toilets that cause blockages (e.g. fat/grease, nappies, wetwipes)” (Thames Water 2023a:86). Thames Water here presents themselves as the ones with the power to teach customers the role which they must play, as they have created “*key activities we undertake to encourage our customers to change their behaviours”* (Thames Water 2023b:8), and that “*educating and engaging our customers to reduce blockages is a key enabler to deliver the outcome that customers want.*” (England 2023:25). In this way, Thames Water present themselves as both listening to their customers, and as the ones who know best how to achieve their wants.

6.2 Education and Enforcement - the only ways?

This brings us to the first theme I identified- that of education and enforcement. This education takes the form of raising awareness. It is noted in the texts from Thames Water that “*there is some awareness that pouring fats, oils and greases down the sink is not a good idea – but this is usually heavily dependent on first-hand experience of the consequences.*” (England 2023:25). This is reinforced by Water UK’s wipes in sewer blockage study, which concluded “*It is apparent from an analysis of the recovered sewer blockage samples that a significant number of people are unaware of the ‘do not flush’ advice on the nonflushable wipes packaging; do not appreciate the reason why wipes designed not to be flushed should not be flushed, or are unconcerned by the potential consequences”* (Drinkwater & Moy 2017:4). This was echoed by the wet wipe manufacturer, who said about people flushing wet wipes: “*They're not going to change, and they're not really willing to change. They don't even look to see if there's something that needs to change. So they just continue doing the same thing over and over again.*” The recommendation of Water UK to solve the issue was once again, “*public/press communications should target the inappropriate disposal to sewer of nonflushable products.*” (Drinkwater & Moy 2017:17).

A lack of public awareness was also a feature of the interviews- for example, the environmentalist, whose role involves the counting and removal of plastic from the Tidal Thames, stated when asked if they thought people knew enough about the causes of fatbergs: “*to be honest, no. before I started this job, I wasn't... I mean I didn't live in London, but I did study plastic pollution, and I wasn't as aware of the specific problem of wet wipes until I started here.*” While the environmentalist focuses on London here, the wet wipe manufacturer went further, saying “*the challenge we have around the world is that flushable or not, consumers flush wet wipes down the toilet.*” In this way, the issue of wet wipes entering the sewerage system and causing blockages is down to the customers not knowing, or caring, that

they should not be flushed. As the protector from Thames Water put it: *“the most we can do is try and educate customers.”*

A point that continued to arise was the issue of *who* needs to be educated. There was significant attention given to the idea that there is a certain type of person who will cause fatbergs. This was most clearly evidenced by the nonwoven expert who stated, *“my hunch is that it will probably be people possibly a bit less educated or lower income”*, following up with: *“most people don't flush things that they shouldn't flush because they're, you know, responsible”*. Suggesting that there is a class of people who are fundamentally irresponsible in their usage of the sewers and went on to explain these people *“keep using the toilet as a bin”*. They also said that in their own area *“I would guess around here that virtually nobody flushes things that shouldn't be flushed because you know it's quite a nice area, so I reckon they probably don't do that.”* Thames Water also, less bluntly, state this, as one of the reasons they claim is a *“root cause”* of their *“poor performance”* is *“London has the highest levels of poverty in the UK”* (Thames Water 2023c:45). Meanwhile, the repairer from Thames Water stated, *“another issue is obviously that London's... it's very multicultural, so you know English can be a problem and different cultures can just have their own kind of, you know... misunderstandings”*. In spite of this, only informant who told me they had experienced a blockage themselves was the nonwoven expert, who said *“when we first had kids we started to use at that stage flushable wet wipes... and at that point I don't think the flushable wipes were anything as good as the flushable wipes are now, and I do remember that did cause a blockage so we as a family have never ever flushed anything ever again.”* Suggesting that despite these ideas of *who* is creating fatbergs, anyone can do so.

Another regularly mentioned issue is that of habits. As mentioned in the previous section, the problem of fatbergs is represented in part as a need for *“customers to change their behaviours”* (Thames Water 2023b:8). It was often stressed how difficult it is to achieve this aim due to habits. The NGO CEO placed the blame on wet wipe manufacturers rather than customers, saying *“the more I think about it, the more I think it's so out of order that these manufacturers are able to say it's flushable and people have got into their habits and breaking habits is much harder, isn't it?”* as the protector from Thames Water said *“we have been using educational approaches on households for many, many years. And we still have the issues that we have. And it's not it's not unique to Thames Water. We're well aware of that. But ultimately, if it works, then we wouldn't need to consider moving away to other things.”* The *“other things”* mentioned here is the shift into enforcement, which will be discussed shortly.

However, there was a counter discourse, produced primarily by Thames Water workers, of this being easy to change - the protector put it: *“They shouldn't be [putting FOG or wet wipes into the drains], which in theory, should be a very, very easy thing to change.”* While the NGO CEO noted the success of a customer engagement strategy of a different English water company saying: *“one strand was just giving people a bin to put in their bathroom and that massively reduced wet wipes going down the toilet.”* The behaviour change here is presented as very simple- *just give people the tools and it is assumed that they will use them.* The repairer from Thames Water explained that this principle of giving the public the tools to change behaviour is currently in use at the company: *“My team spent a day at London Zoo, like handing out... we've got these, like, grease trap things, that you can have in your house. It's just like a cardboard tissue box basically, with like a... like a lining inside it, which you can tip your cooking oil into. So we would like go to London Zoo, and we would like stand there giving these things out to people to like... raise awareness. And we'd give out pamphlets as well. So we have boots on the ground kind of awareness raising at different events quite often as well.”*

Another group presented as needing to be educated are children. Thames Water discuss their involvement in the Junior Citizenship Scheme for Year 6 pupils (10-11 year olds) in multiple documents (Thames Water 2023b, England 2023), and expand upon the meaning of this scheme in the Wastewater outcomes document, stating it aims *“to educate children on sewer misuse and unflushable materials from a young age”* (Thames Water 2023b:8). These schemes are delivered in partnership with the Metropolitan Police, the London police force (ibid.). The consultant explained that when they worked with Thames Water to deliver educational programmes about responsible use of water and issues with the combined sewers, Thames Water had three different organisations to go into schools. These organisations, including the consultancy that my informant founded, were given a lot of freedom: *“we were all allowed to deliver our own... how we wanted to deliver... so Thames saw what we wanted to deliver. But we all delivered it in very, very different ways.”* The only thing that was required of the educational programme was that it got out the message of the “three Ps”- *“we would very much do the three Ps... We used to do it in an assembly... So that we can talk to all the children...And say it's just poo, paper and pee... So obviously that's a core... message that they wanted to get out.”*

This idea that children should also be educated outside of school was elaborated on by the wet wipe manufacturer, whose company provides customers with a book- *“basically kind of a bedtime story... So it's about a girl and she flushes wipes down the toilet because that's what her parents have always done, and then she hears a voice that comes up from the toilet and it's the wipe monster saying “Feed me more*

wipes.”” The aim of this is to start the process where “*you can educate consumers to the point where people don't flush anything down the toilet*”. This belief that children should be a target for education comes back to the issue of customer habits that need to be broken. As the nonwoven expert put it when describing who they thought did this, they said: “*they got into bad habits possibly earlier in their life*”. The education of children therefore seeks to break this perceived cycle early, suggesting the reason for the production and delivery of these school workshops and books.

Whether or not these initiatives work seemed to be of less consequence than carrying them out. When asked if ‘Bin the Wipe’, the nationwide campaign that Water UK run, had produced any proof of success, the Water UK economist said they didn’t know, but “*I'm almost a bit relaxed about it. If sewer flooding events go down around the country over the year, do you really need to track it back to that?*” While the protector from Thames Water said that communications campaign outcomes were “*seen as more voodoo magic.*” The wet wipe manufacturer, talking about the book they published as an educational move said, “*that book would have gone out to thousands of people, maybe tens of thousands... and that's not going to make a dent in the problem.*” All suggesting that the efficacy of communication programmes is not the focus of doing them. This idea will be returned to in the discussion section.

Now moving on to the second part of Thames Water’s customer engagement strategy- enforcement. As previously mentioned, the school outreach that the consultant was involved in has, from their understanding, largely been scrapped. This outreach seemingly has been replaced by the Junior Citizenship Scheme, which is “*run by the Met Police in conjunction with Local Authorities*” (Thames Water 2023b:25), suggesting a stronger message being delivered by the company. Other informants suggested that further police involvement in the matter would be of use, such as the nonwoven expert saying “*if you think about it, fly tipping is illegal and you can get fined for that. Quite right too! Because if you flush things down the loo there's a cost to clear it, it causes fatbergs, and the wrong stuff flushed causes huge damage to sewers. Water companies have to spend money on it so... Why not make it an offence that can be fined? Because you know if you're committing a criminal offence, you can be fined for it, or an environmental offence...you might be less likely to do it.*”

Thames Water themselves are also taking the policing of the sewers to a new level, with the protector explaining the new enforcement process- they will “*use porcupine style equipment, which is effectively a lump of metal with spikes on it, which goes into sewers, and is used to capture wipes so they can physically count*

them, and then use that to trace where those wipes have come from at source.” Once the porcupine has been able to identify the households which are flushing these wipes, they will instigate a process that can lead to prosecution:

“we will have an initial doorstep conversation. We will stay in that area for maybe a week to monitor if anything changes after our conversations. If it stops, then fantastic. If not, we will have a second doorstep conversation in the week, along with a second letter, which essentially says, you know, You haven’t stopped flushing wipes, so we’re going to have to start tracing down to an individual property level, right? Here this wouldn’t be 100% effective just because of access chamber locations in London in particular, where they may have been built over or they’re very just difficult to access. And again, we’ll have another conversation at this point where it is a bit more serious now. Continue with this and we will charge you. We haven’t had this set process in the past, but we have had plenty of interaction with customers in the area over the years. So that’s step three... So we haven’t got to this point in our trials yet. It is likely to be a letter which is going to be hand-delivered by a court enforcement officer or bailiffs. It’s non punitive at this point. It’s more to show that this has now escalated further and, you know, really show that this is important. And the letter effectively is similar... “We have now traced this to you. This is a crime. Please stop.” And it also explains that if this does continue, we’ll start charging for our costs back effectively. And I say at this point, we have to keep monitoring. And if it stops again, that’s it. We walk away. What we’re aiming for here is a behaviour change. If it does continue, we will also raise those costs if and when we need to. And again, the idea is if we do raise our costs and then the customer does get in touch and says, “okay, look, we stopped,” again, that’s fine. We will drop the cost recovery. That’s not what we’re here for. We want, again you say thank you and walk away.”

This long quote offers several things to be aware of- firstly the idea that the education hasn’t worked so the company has moved on to threat as a motivator for behaviour change. Secondly, that despite how good the protector believes this idea to be, it won’t be *“100% effective.”* Third is the idea of Thames Water claiming their costs back, which will be explored further in the financial section of this analysis.

However, the wet wipes are only one part of the problem of fatbergs. We must also consider the fat- FOG are as much a part of the problem as the flushing of wet wipes, and they are represented differently. The issue of FOG entering the system is primarily represented as an issue of food service establishments (FSE). As the protector from Thames Water revealed, this has traditionally been the priority *“So the, the food business side of things was initially set up as a trial in 2017... household customer education historically has been a bit more informal.”* This is down to the fact that there is legislation in place that means FSE have an obligation to stop FOG entering the sewerage system, as there are laws stipulating that FSE must have a functioning grease traps, Thames Water has been proactive with this, as the protector explained: *“11,000 of them do require waste management equipment, and grease related kitchen practices. Of those, only 1500 or 13.7% of*

them actually had appropriate grease management practices in place. And we encouraged installations. Following our work over the years, that's now up to now, up to 6025 or 53.6%.” Showing the impact of this. However, as the consultant explained, this burden should not fall on Thames Water alone, as the nonwoven expert said: *“the other issue is its trading standards that are responsible. And trading standards have had their budget cut by 40 to 50% and the last 15 to 20 years, and they've been given extra responsibilities on top of that. So, they have no money, no people- they've had to do round after round of redundancies.”* This suggests that while Thames Water has made progress in the issue, they don't have the resources or connections to further reduce the issues of FOG to the extent that is needed to make an impact.

6.3 What about the Sewers? Infrastructure in focus

However, the education of customers and policing of their 'bad behaviour' was not the only solution presented by my interview subjects, nor in the literature. As mentioned in the first section, there are in fact six actions Thames Water promise to invest in to meet their goal of reducing sewer flooding by 17% (Thames Water 2023c). Two of these are ones I have classed as 'infrastructure fixes'. The company does acknowledge that the ageing assets that hold both the water and wastewater systems together are another *“root cause”* of their *“poor performance”* is the fact that they oversee the oldest infrastructure in the country, and in London *“50% of the pipes are over 100 years old”* (ibid. 45).

The ageing infrastructure of the system was often commented on by my informants. For example, the consultant questioned why fatbergs had become such an issue in recent years, saying: *“Because we used to have loads of chip shops before. Loads of grease. But it wasn't an issue in the 80s. It wasn't an issue in the 90s.”* Suggesting that previously the system has been able to handle a large, or even larger amount of FOG from FSE previously. The economist also discussed the age of the sewers- *“some of it is really old, it dates back to the Victorian era so there's a large kind of investment program needed, and going on to keep it up to date, and up to standard, and to improve it.”* The NGO CEO also commented on this issue *“look at all the leakage because... their pipework is older than some other companies’...You can fix leakage, but it costs so much money just to keep still because there's new leakage all the time.”* This suggests that in its current state Thames Water faces a Sisyphean problem- the infrastructure's age means its keeps breaking, and this breakage costs money, which means that Thames Water then has less money with which to replace the faulty infrastructure.

It was noted that Thames Water faces a challenge in improving their infrastructure due to the location it operates in, the largest city in the UK, and one of the largest in the world- as the economist noted *“you're not going to be digging up Oxford Street [London's main shopping street] anytime soon.”* The protector for

Thames Water also noted the difficulties the company has working in London, both acknowledging that their enforcement approach “*wouldn't be 100% effective just because of access chamber locations in London in particular, where they may have been built over or they're very just difficult to access*”, as well as the fact the London's sewerage systems has inherently infrastructure challenges aside from the age of the system- “*It could be that, you actually have a section of sewer that runs uphill for a period. At which point fat and grease is going to have a lot more opportunity there to settle and to, to cause blockages. Also there are sewers that haven't been perhaps maintained as much as they should have been so, you know, it doesn't take much for a wet wipe to snag on a tiny little spike that comes out of a slightly damaged sewer.*” However, for other interviewees, this was not an excuse, with the consultant saying, “*I think that if you had people down in the sewers every day, just walking the sewers, just checking the sewers to see what was going on, they would have noticed that there were issues were building up.*” Suggesting that maintaining the infrastructure is not part of Thames Water's agenda.

The biggest infrastructure topic that came up in my research was the Thames Tideway Tunnel. As Thames Water state “*the Tideway Tunnel represents the largest and most significant wastewater project since the 1860s.*” (Thames Water 2023c:42). There were differing opinions of the impact this ‘super sewer’ would have on the problem of fatbergs. The NGO CEO said of tideway: “*I mean in a way it feels like a sledgehammer to crush a nut, like build a great big thing to fix something that ideally we could do through behaviour change. But I think with population growth they needed to do something like that I guess. I just kind of think you know it's like reservoirs, you know we're building it now and we're building a bit of extra capacity, but in 20 years time is it going to be big enough?*” This was seconded by the environmentalist, who said, “[fatbergs are] *still going to be causing blockages in the sewer system but what's going to happen is instead of it going into the river it's going to go into the 25 km long super sewer. so you know these fatbergs are still going to be happening, they're just going to be flowing into something else.*” The consultant also stated that while, “*I can completely understand why they went and put so much money into Tideway Tunnel. I just think it would have been nice to have had some front of pipe solutions as well.*” These “*front of pipe solutions*” would have been more akin to the nutcracker that the NGO CEO was alluding to, giving the example, “*I think they could have done a really big thing in schools. I think they could have put like gardens in schools*” to slow the surface water off, thus reducing the likelihood of sewer overflows. Overall, this suggests that while the super sewer is Thames Water's flagship project, it will have little effect on Thames Water's flagship issue, the fatbergs.

The environmentalist was clearest in their idea that fatbergs are ultimately an infrastructure issue, saying: “*I think the only way that they can manage it better is just to invest in proper infrastructure to manage the growing population, and climate change with increased rainfall, and so whilst they have the combined sewers that we have I don't think there is really anything that they can do, apart from what they already do in terms of educating people and advocate for a ban of plastic in wet wipes. So they are doing all the right things, if they don't want to update the sewer system- but it's undeniable that the sewer system needs more*”

infrastructure. So I think that's the only thing that can be done at this point in time in my personal opinion.” The idea presented here is that the communication perspective represented in the previous two sections is simply a sticking plaster to the real issue, which in their eyes is a complete overhaul of the combined sewerage network.

6.4 In this Economy? The Financial Problem

When asked how the privatised system impacts how Thames Water deals with the issue of sewer blockages, the NGO CEO said there is: *“a money challenge like have they got enough money? Or have they got enough money to invest upfront to try and stop these problems from happening? Like try and make pipes bigger or whatever, rather than having to kind of mop it up which is more expensive in the long run but cheaper at the time.”* This was seconded by the economist who said the current financial issues of Thames Water were in part caused by the mistakes of previous investors- *“some investors [in Thames Water] who are nervous about the future, because from their perspective they've not had dividends since 2017. So they've not taken a dividend out, they are to be frank, not the investors that kind of caused the problems ten, twenty years ago so there's a big accusation that Thames didn't invest in these assets properly. And I think that's true actually. You know, these investors are kind of like “well we didn't cause any of these problems and we don't want to spend money to fix those.””* Once again, the London specific difficulties were mentioned in relation to these costs, as the economist said *“London has lots of flats, it's got lots of cellars, it's got these kind of quirks that are quite hard to point to in an econometric model which is what we have to use and therefore my argument is it's had a bit of a raw deal in the past- it hasn't got the kind of money it needs.”*

The consultant also noted that Thames Water has reduced the amount of outreach they do with schools, likely due to budget constraints and the financial structure that the AMP system dictates- *“And that lasted for five years, which is, you know... Thames to do all their funding, all the water companies do five year slots. So it was one of those that seemed attractive. So they had some ideas and then they were just like “okay now we've got to make all these savings, and so we're really going to just cut down on what we're telling... interaction with schools.””* The shift from education to enforcement, as studied in the previous section, seems partly down to economic pressure also, as the protector from Thames Water explained when discussing the new plans for enforcement they will *“explain [to customers found to be misusing the sewers] that if this does continue, we'll continue monitoring. And we can start charging for it, And if it stops again, that's it to walk away. What we're aiming for here is a behaviour change.”* So in spite of the emphasis on behaviour change, if necessary, Thames Water will do the work to charge customers for the fatbergs they cause. The consultant also suggested this as a reason for the change, as when discussing the shift into enforcement they said that Thames Water *“might be trying to get some money from there. I mean that they're trying to now get a 40% increase.”* Referring to the increase in bills that AMP8 proposes. However, this

didn't mean that the education route was always viewed as expensive- for the economist, it was a good solution because of its low cost: *"this awareness campaign so we're running that for like a ludicrously cheap amount I don't know how much the money is but it's a very small amount of money, because it's actually very easy to apparently get social media adverts all around the country and apparently it's not that expensive so... So we're doing that as a bit of awareness raising campaign."*

This issue of bills was often mentioned. In the AMP Thames Water acknowledge this, and claim that while inevitable, it was done in consultation with customers themselves- *"we carried out the qualitative affordability & acceptability testing"* which found that *"customers are willing to pay more to support tackling environmental challenges... In response our customer strategy includes elements on changing customer behaviour to support these environmental outcomes – such as reducing water use and stopping sewer misuse that leads to blockages"* (England 2023:37). In essence, fatbergs are a valid reason for customers to pay more and this is supported by the customers themselves. This was supported by my informants, as the economist said *"in the past, the focus has been on keeping bills as low as possible instead of actually... you know. You can't do the investments that you actually need, and now actually this conversation has moved on to bills may need to go up, but as part of that here's what we'll actually deliver so it will actually address the storm overflows."* While bills are controlled by the financial regulator Ofwat, whose role in checking the water companies' plans for storm overflows is stated be to *"ensure the targets are delivered as efficiently as possible, to provide best value to customers and the environment, challenging companies to keep bill increases manageable for consumers."* (DEFRA 2023:18). This suggests a conflict within the industry- as Thames Water and the economist argue that bills need to go up, while Ofwat seeks to keep them as low as possible.

Despite the regulator's goal, Thames Water acknowledged that for many customers, bills were already unmanageable, *"We recognise that increases in our bills will be a big ask for some of our customers. Therefore, we are putting in place more help for those in financially vulnerable circumstances"* (Thames Water 2023c:10). Whether or not this *"help"* would be enough was debated by my informants, with the NGO CEO saying, *"when we're asked "are water bills too cheap?" I always say, "well it depends who you ask because some can't even afford to eat, so yes it's too expensive for them."* However it was also mentioned that while the aim of the regulator to keep bills low was admirable, it was also realistically part of the reason that Thames Water have to ask for this increase now- as the NGO CEO went on to say, *"downward pressure on bills is a big challenge for all major water companies- they would say "we need to invest X, Y and Z" but actually our customers and Ofwat say we can only use 50% of the money of what we actually need."* Due to the downward pressure on bills, there is a focus on *"particularly bills on current customers and worrying less about bills for future customers."* Meaning that Thames Water may have reached a crunch point with AMP8, as they now argue that they will have to increase bills.

The profit motive in the industry also had competing discourses around it with

the economist saying, *“pension funds love water because they see it as a reliable relatively lower risk investment between 3 to 5% a year and I think that's really good because they're trying to get a portfolio of investments, so they like it for that reason so it's generally a long stable source of income”*, while the NGO CEO was more critical, saying *“one thing is the profit motive, they have to generate profit to give back to their shareholders and I know Thames would say well we haven't given our shareholders pay back for years, but the thing is, these aren't charities. They are investing in the water companies because they know they're going to get a stable return. They're not doing out the goodness of their hearts, so that's one thing, all the CEOs of the water companies I've met... including of Thames, have all been really committed people, but they can't just concentrate on doing the right thing. They do also have to think about how to generate a return.”* While from an economist's perspective, the profit motive allows a stable investment, the profit motive does not allow for the *“right thing”* to happen in terms of the best possible outcomes for the water and sewerage systems themselves.

6.5 Why Should We Trust You? The Limits of Customer Trust

Trust is recognised by Thames Water as a key part of creating the desired behaviour change, *“motivating customers to save water and prevent blockages requires a revolutionary change and we need to foster closer relationships with our customers, based on trust, to be able to influence their relationship with water.”* (England 2023:8). However, they also recognise that they are currently distrusted by the public and as a result say: *“we have committed to investing £20m in AMP8 in increased proactive communication”* (England 2023:34). The NGO CEO, when talking about their work with Thames Water to deliver a programme focusing on improving water efficiency, shared the difficulties in doing this, saying: *“the local community were just massively against it. So again, it tracks back to the reputation. When Thames Water's trying to do the right thing the community just often thinks “why would we trust you?” That kind of thing. I guess like all water companies, there's been some management errors, there's been lots of court cases on Thames where they have actually massively polluted beautiful precious waters which people swim in, or which are rare around the world like chalk streams.”* This example, while not about sewer blockages, shows the hurdles Thames Water faces when engaging their customers, and the reasoning behind investing £20 million to try and fix this.

However, when discussing with other informants outside of Thames Water, the shift into enforcement was not met well. When told about the change, the NGO CEO said, *“it doesn't feel very appropriate or inclusive somehow, it's like, maybe some people have got other worries? And also, a water company taking a little householder to court you know, when they're doing all this bad stuff themselves.”* While the consultant was also incredulous about this shift saying simply, *“it's hard to believe.”* While anecdotal, this evidence suggests the lack of trust within the

sector will influence the acceptance of Thames Water's new direction. It also raises a question about how effective any "*proactive communication*" (England 2023:34) will be if it is undermined by "*taking a little householder to court.*"

The environmentalist, who works on a project funded by Thames Water to measure plastic pollution, was also ambivalent about how much their organisation trusts the company to deliver, saying "*sometimes we do reject funders if we don't agree with their values... So I think Thames water was quite a big one in terms of like the discussion, and it wasn't taken lightly. But we just felt like the benefits outweighed the costs you know... if there's... you're never going to change if you're constantly fighting, then nothing's going to be addressed, you kind of have to work with.... I wouldn't say enemies but... but you have to work with the people you're fighting against to make change, so yeah and that's where that relationship is.*" This again shows the lack of trust, not just between Thames Water and customers, but between them and the rest of the water sector.

The solution presented to this issue was usually involving more stakeholders in the issue. The NGO CEO said, "*the companies have got this challenge of whether people trust them or they're just pissed off with them because of leakage or profits and all of that so I think that engaging with third parties - charities, independent organisations, really really helps to land their messages.*" To some extent, Thames Water already engages with this idea - the environmentalist is funded by Thames Water - however as seen above, this doesn't mean that they trust the company. The repairer also stressed that Thames Water take pains to try and improve trust through their own processes, such as working with contractors instead - describing a previous job for the environment agency they said "*because I was a contractor for Thames Water but not actually working directly for Thames Water, our readings were like... what's the word? Not biased*". This suggests that working with third parties is certainly something Thames Water is willing to do and that those within the sector believe in its effectiveness - however, there is still a hill to climb when it comes to making sure there is trust between Thames Water and the third parties they seek to engage.

There were also issues of trust between stakeholders other than Thames Water which affect how fatbergs are dealt with. When it came to the issue of wet wipe flushability, many of my informants from outside of the wet wipe industry were sceptical of the claims made by the industry, with the NGO CEO saying, "*the water companies have tried to do loads on bin the wipe because loads of them say they're flushable when they're totally aren't.*" Meanwhile, the environmentalist suggested that a solution to the problem of fatbergs was "*wet wipe companies stop advertising them [wet wipes] as flushable*". Both informants here demonstrate a supreme mistrust of the wet wipe industry. This is despite the wet manufacturer explaining in great detail how the flushability tests for wet wipes work: "*So WRC does testing in that and that's the slosh box test... They also do a drain line clearance test, which takes a standardised sewer process... piping, and they test if it can flow through that, and it has to basically clear that drain line test and break down by a certain amount in turbulence. That's something that we don't as a brand do any of the testing, we take it at face value that the water industry has developed a standard*

and if we pass that standard it should be fine.” They further went on to reveal that *“the Kimberly Clark's brand, I think they... they failed it the first time... and they changed material and put it back in again and they passed and they've been fine to flush ever since.”* showing both their own trust in the fine to flush system compared to informants from outside the industry, and also suggesting how vigorous the testing process is.

The nonwoven expert explained the distrust between the wet wipe industry and the national ‘bin the wipe’ campaign as follows: *“they didn't allow for any mention of flushable wipes. And so it was a bit more difficult for the industry- some of whom sell flushable wipes, who have invested in huge amount of technology to meet the water industry's fine to flush standard only to be told that the public campaign about them is not going to mention that you can flush flushable wipes...it was more difficult to get those in the industry in the UK to support it.”* However, as the wet wipe manufacturer explained, the fine to flush standard is passing from a voluntary agreement into legislation, *“it's probably going to go into law rather than a voluntary accreditation through the water industry. Which to be honest I would welcome that. I would rather have it legislated than voluntary accreditation.”* This suggests that the issue of trust may be able to be fixed once again by off handing responsibilities to those further away from the issue.

Overall, we can see a few examples of how trust, or lack of it, influences the way that the problem of fatbergs is handled. Thames Water clearly faces a massive hurdle in their engagements with customers and stakeholders due to their past failings, which have eroded trust in the business. It is questionable if the new policy of enforcement will help with building this trust. The central idea expressed is also that involving more stakeholders will help with this rehabilitation of their image that Thames Water seeks. While informants from outside of the wet wipe industry were very untrusting of it, those in the wet wipe industry expressed willingness to engage, although only if certain conditions are met.

6.6 Whose Fatberg is it Anyway? Confusion about the Problem

Despite the agreement of many of my informants that communication was a necessary part of the solution to fatbergs, it became clear that there were significant communication problems between them.

As the repairer said, *“obviously we don't want to go round blaming people, it's kind of a bit of education... light education.”* when discussing the approach Thames Water, their employer, takes toward people who flush the wrong things. However, as we can see from the previous sections of the analysis, this is not the case. It may be that the repairer was trying to mislead me, but from their other answers, I do not believe this to be the case, and rather that this is another instance of confusion over

the problem within the company as well. Part of this may come from the fact that fatbergs are a relatively new phenomenon - as the consultant, who has more than 25 years in the water industry and was known to other informants for their work in the industry said *“2018, 2019. Fatbergs it wasn't... It hadn't really taken off as a term. It was almost like it took a couple of years, after that it suddenly became the constant.”* suggesting it is only recently that it has *“taken off”* as an issue in the water sector.

It was often stated that the issue was shrouded in mystery. When it comes to the flushability of wet wipes, the wet wipe manufacturer discussed the difficulty in establishing this: *“you're trying to make an assessment you know with blinkers on. You can't really see what the actual impact of flushable wipes are.”* The nonwoven expert even suggested that this confusion was manufactured by Thames Water themselves saying: *“this will be a bit harsh on Thames water but there have been people... I'm not saying that I would say this... but some people have suggested that the water companies have been out to blame wet wipe companies because it distracts attention away from the water companies and their huge failings.”* It seems that for some of my informants these *“huge failings”* are a continuing issue. For example, when asked what they thought Thames Water was doing about the issue of fatbergs, the environmentalist stated, *“judging on the number of sewage spills and the evidence on the foreshore I don't know how much they are actually doing about it.”* Showing that despite all the work Thames Water has promised to take, there has perhaps not been the desired impact, not just in numerical terms, as can be seen in tables 1 and 2, but also in terms of perceived effort from the rest of the industry.

Furthermore, the assets Thames Water manage may simply be too much for them - as the NGO CEO said: *“at leadership level they've had successive CEOs and boards. They're always on the naughty step from Ofwat. It seems almost to be too big a vehicle to be able to kind of tackle... and I know certainly that the last time the CEO stood down which was 6 months ago they were talking about maybe breaking it up into two different companies.”* The consultant also mentioned this recent change in management, relaying a conversation they had with a friend, *“She [recent CEO] came in, everyone was really quite excited, that was seen as that was very good. And then she left really quickly. And I didn't know she'd come from another water company, so I said, “oh, did she just come from out of the sector? And then she came in and just thought, “oh my God, this sector.””* she [consultant's friend at Thames Water] *said she was from another water company, so she knew the sector. Yeah, she said it's just a thing that Thames is in such a state. Nobody knew why she left.”* This suggests that Thames Water faces a more extreme challenge than other water companies.

Meanwhile, the view from within the company also reflected the difficulties in managing the network, as the repairer said, *“if you put all the sewers that we have all together, it can go round the world like three or five times or something... we can't carry out planned maintenance everywhere,”* while the protector said, *“different regions will have different operational, difficulties and challenges. Even within our own catchment, we split our operational teams geographically into*

London and Thames Valley and Home Counties because they have such different challenges.” Furthermore, the NGO CEO said an issue may be that “it also seems to be a thing sector wise which is that they don't even know where all their assets are...they don't even know anything about it which seems astonishing but it also seems to be the case... and that might again be to do with investment or it could be to do with management culture who knows. I mean that would be another hard thing to tackle at Thames because they've had so many different changes of management and board.” The consultant went further, saying of Thames Water “they are just really... just seem to have been mismanaged for a long time.” All of this suggests an existential difficulty for the company - too much to manage and mismanaged at the same time.

The protector from Thames Water also mentioned the lack of ownership of the problem from the government, saying *“I also think there's quite possibly a bit of this at the most basic level lies with central government as well. I said we've sort of talked around what we'd like when it comes to legislation. And ultimately legislation is the responsibility of central government.”* The economist also said that Water UK's view was, *“we've kind of done our bit and we're now challenging everyone else to do their part too because while the water sector has a role to play it's only it's just one part of the problem”,* and that they had *“ten asks for the government”* to support this. Furthermore, the wet wipe manufacturer also suggested that the government should take on more responsibility over the issue of wet wipes, saying it would be better if *“by law it [the wet wipe] has to meet that standard. Otherwise I don't know... the government come after you, trading standards come after you.”* This all suggests a lack of centralised control over the issue - while this research focuses solely on Thames Water, government documents themselves make clear that this is a wider issue, and that they must work on a *“a local and national scale”* (DEFRA 2023:12).

In conclusion, we can see the confusion presents itself in several ways. There is the issue of responsibility over the creation of fatbergs, with Thames Water customers, the wet wipe industry, and Thames Water themselves all in the line of fire. Then there is the issue of wet wipes - there is confusion about their flushability, with an argument that it is impossible to test how flushable they are, and the added confusion that up until this point, the same organisation, Water UK has been responsible for both a large campaign centred on binning them, as well as being responsible (in association with the WRC) for accrediting their flushability. There is also the issue that Thames Water themselves may not have a handle on their network at all, due to its size and the revolving door of upper management at the company.

7. Discussion

This section will seek to answer the remaining questions from Bacchi, as well as my three research questions.

To answer the second question of Bacchi (2009), through the analysis one can identify several presumptions. A major one is the idea that there are some people who are more prone to cause fatbergs, and these people are poor, uneducated, and have difficulty understanding English. Despite this, the only one of my informants who had personal experience of causing a blockage themselves was the nonwoven expert, who is none of these things, with a long career in English language science communication, and living in a self-proclaimed “*nice area*”. This demonstrates a deeply held presumption, as Bacchi’s (2009) second question asks us to consider. This is also backed by Marsden’s (2024) research into modern class discourses in the UK, that the working or lower class are demonised while the faults they are blamed for lie further up the ladder. This presumption, while most clearly expressed by the nonwoven expert, was also found in Thames Water’s discourse seen in the fact that Thames Water choose to focus on the ‘challenge’ they as a company face in having a customer base that struggles to pay bills, as both their AMP8 and the NGO CEO pointed out, rather than focusing on the structural issues within the network.

Another deeply held presumption is that the education campaigns that were advocated for by all the informants, and deeply embedded in the Thames Water documents are simply assumed to succeed in changing behaviours. This is what Whitmarsh et al. (2011) also found when exploring the national climate change strategies in the UK; an instrumental understanding of communication which assumes that the act of informing the receiver will result in the desired outcome. I also believe that this lack of focus on outcomes goes deeper and can be viewed as an expression of nonperformativity. There is an implicit assumption that simply doing the campaigns is enough - as the economist expressed most clearly: “*do you really need to track it back...?*” Despite the lack of direct results, as can be seen from tables 1 and 2, and the fact that Thames Water is switching approaches to be threatening in the face of this, there is still a strong belief that the communications must be done. This is similar to the findings of Ahmed’s work into antiracist campaigns in higher education institutions (Ahmed 2006, 2012). There is a recognition that fatbergs are an issue, but to truly tackle this the analysis suggests there are significant structural and organisational issues that must be addressed. However, as in the findings of Ahmed (2012), these are inconvenient and even existential problems for the organisations in question, and therefore the issues are reduced to check box approaches of letter sending and visitation in the case of Thames Water, with actions are taken on a skin-deep level to avoid these more awkward questions of investment and structural change.

Some of my informants also argued that the very structure of the industry, such as the insistence of Oxfat to keep bills low for as long as possible, has added to the

issue. This aligns with the third question of WPR I am using, “how has this problematisation come about?” (Bacchi 2009:2). In fact, the research suggests there are ‘built-in’ failures to the system that do not involve customers at all, from the profit motive, suggested by the NGO CEO, to the wicked problem of leakage in the system, as highlighted by the environmentalist. Informants also mentioned that the Tideway Tunnel project may in fact not be the silver bullet Thames Water hope it to be, with my informants expressing that it is simply hiding the problem, and it may soon prove to be obsolete. This ties into a presumption that newer techniques are better, which can be seen both in the enthusiastic shift into enforcement from the protector at Thames Water, to the push for the Tideway over ‘front of pipe’ infrastructure solutions as discussed by the consultant, and the excitement of the economist to utilise social media for the ‘bin the wipe’ campaign. The idea that private water companies in England and Wales are more interested in the creation of technological advances rather than fixing existing problems was also found in studies of other private water companies in the country (Bakker 2000), and suggests that it is a feature of the private system.

As previously mentioned, the issue of the ageing infrastructure is one of these, Thames Water are also held back by the lack of trust in their ability to manage the sewerage network. This is both expressed from the fact that the company felt the need to expand their “customer strategy” documents (England 2023, Thames Water 2023a) and in the way my informants viewed the company’s actions. The bad press coverage they have gotten, for both infrastructure and pollution issues, as well as their financial problems. Moreover, this lack of trust extends even to those who work or have worked with them, as the consultant and the environmentalist both highlighted their displeasure with the way Thames Water is currently managed. This was also found by Bakker (2000) in her study of YWS. The building of this trust suggests a way the problematisation may be challenged, the final question of Bacchi’s which this paper considers (2009). A further way the problematisation may be challenged is through the development of customer strategies that focus on more than just what consumers can do in the private sphere of their own actions. This is a gap noticed by Whitmarsh et al. (2011) when analysing UK policy makers’ approach to climate change communication strategies and can be applied here too. An example of one of my informants expressing this can be found in the consultant wondering if more could be done within schools to create front-of-pipe flooding solutions.

Now, to answer the research questions. The research shows that the issue of fatbergs is presented within Thames Water’s own discourse as an issue caused by customers. We can see this in their suggestions that they struggle due to their customer base, and that their strategies towards dealing with the problem of fatbergs are led on two primary fronts - education and enforcement. This seems to come at the cost of other solutions - while Thames Water have made significant investments in the system, notably the Thames Tideway Tunnel, my informants suggest that these will have little impact on the fatberg problem, while the consultant bemoaned the lack of smaller “front of pipe” solutions that could alleviate the issue of flooding caused by fatbergs. As Ahmed (2012:46) states “solutions to problems can create new problems.” The solution to the fatberg problem in the discourse produced by

Thames Water is the compliance of customers to their customer strategy. This further suggests that Thames Water has an interest in flashy, big budget solutions that can attract shareholder investment, rather than necessary smaller infrastructure interventions. This idea was supported by the environmentalist, who suggested that problems with Thames Water are only fixed once they reach a certain size, while the idea that Tideway is a project more to generate profit rather than improve the system was also the conclusion of Loftus & March (2019) when specifically analysing it.

To answer my second research question, I believe the problem that underlies many of the issues discussed here is in fact the privatised structure of the water industry in England and Wales. This manifests itself in two ways. The first is the fact that the financial regulator, Ofwat, imposes targets that are an issue for Thames Water to meet, as acknowledged by the economist and the environmentalist. The issue of penalties for not meeting Ofwat's targets leaves Thames Water with less money to fix the issues, such as the leakage costs which the environmentalist mentioned. The second is that the profit motive hinders those in charge of Thames Water from doing "the right thing" in the words of the NGO CEO. The difficulties of managing a company such as Thames Water, that seeks to manage changing the behaviour of 16 million people, as well as an infrastructure system that is more than a century old, and generate a profit for shareholders, can be seen in the revolving door of higher management. The research suggests that this balancing act is not sustainable. The fact that the recent CEO, who left after six months in the job, had experience within the water sector as mentioned by the consultant, further suggests that Thames Water faces more of a struggle than other English and Welsh water companies with the privatised system.

To answer my third question, the analysis presents a major difference in the discourses produced. This is the issue of wet wipes. They are found in more than 90% of fatberg blockages and were a source of much confusion for my informants. While Thames Water's new enforcement approach focuses specifically on householders who flush wet wipes, there was no mention of the flushable vs. unflushable debate that was at the centre of the discourse created by the two informants from the wet wipe industry. This un-joined-up approach toward wet wipes could also be seen elsewhere, with the fact that Water UK managed both the campaign to encourage consumers not to flush any wet wipes- 'bin the wipe', as well as the being responsible for certifying wet wipes that are 'fine to flush'. This debate is not unique to Thames Water's case, as Alda-Vidal et al. (2020) find this to be an issue globally, and one that needs considerable future study. This brings me to the issue of further research.

7.1 Future Research

As the "whose fatberg is it anyway?" section reveals, there is still much confusion about the issue. I think this is especially clear in the discussion about wet wipes in the system. While as previously mentioned, there is an idea that the people

causing fatbergs are poor and uneducated, but research into wet wipe usage, while limited, seems to suggest that consumption of wet wipes is a middle-class habit (Karadagli et al. 2021). I believe further research into who is flushing ‘unflushables’ is an interesting topic that deserves greater exploration. The linkage between class and water communication campaigns comes into play here too. This research would likely take the form of an ethnography. The need for this research is further highlighted by the work of Alda-Vidal (2020) who highlight the need for the creation of a global agenda to combat what is a large problem faced by sewerage providers the world over.

Furthermore, there is certainly space for more research into ways of reducing blockages and sewer flooding away from customer-focused ideas. As both the consultant and Loftus & March (2019) suggest, front-of-pipe solutions to sewerage issues are often neglected in favour of flashier alternatives. Research into the feasibility of these less-used solutions, or why they are less popular, could be pursued.

Finally, there is room for the concept of nonperformativity to be applied to other environmental problems. As Whitmarsh et al. (2011) discuss, education programmes are often the backbone of tackling environmental issues. This research suggests that these education programmes can instead become a way for those in control to consider an issue fixed, rather than challenging or considering other, more wide-ranging issues that may be causing the ‘problems’.

8. Conclusion

Thames Water represents the issue of fatbergs as being caused by their customers, in part as they have a higher number of customers in the lower socioeconomic classes. Thames Water believe this issue can be solved using a combination of education and threat of legal action. However, there is not evidence, or a high level of importance placed on gathering evidence, that these campaigns will work. It seems in part that there is a belief that simply doing these campaigns will fix the issue. There is also significant confusion around who is responsible for these campaigns and how they are managed, since the same body manages both the ‘fine to flush’ certification for wet wipes, which are found in over 90% of fatberg blockages, and the national ‘bin the wipe’ campaign, which encourages consumers to stop flushing any wet wipes.

On top of this, there are underlying and perhaps larger issues that cause the fatbergs to be such a burden on the system. For example, the structure of the privatised English water system, that focuses more on targets than delivery, and ensures that the sector is more focused on finance than the actual maintenance and provision of working sewerage services.

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Popular science summary

Fatbergs are sewer blockages caused by the melding of fat oils and grease and plastic containing items, typically wet wipes. These fatbergs cause significant problems in a sewerage system, from a reduction in drinking water quality to sewage flooding people's properties. Preventative measures against the formation of these fatbergs typically takes the form of communication campaigns to educate the public to not introduce fatberg components into the sewerage system. This research focused on the efforts of one company, Thames Water, the private company that serves 16 million wastewater customers across London and the Southeast of England, to reduce their fatberg 'problem'. It found that there are certain people who are deemed as needing to be educated - those from lower social classes, those who speak English as a second language, and children. The research considers that the education programmes constitute a form of 'nonperformativity' as the existence of these education efforts are considered by Thames Water to be enough to solve the issue, rather than other courses of action that pose harder questions of the company, instead choosing to pass this issue onto customers.

These other causes are issues such as aging infrastructure and a lack of economic investment in this infrastructure, as well as a lack of trust in Thames Water. This customer focus has also come to shift from just educating into enforcement, with plans to begin fining customers who continue to flush wet wipes and other plastic items. A final finding is that there remains confusion over who is responsible for this problem, as the issue has only come to widespread attention over the last decade, and wet wipe manufacturers are confused as the same organisation (WaterUK) currently oversees the national 'bin the wipe' campaign, as well as certifying the 'fine to flush' scheme for wet wipes that are considered flushable.

Overall, this research connects into the wider pattern of environmental problems being 'hidden' by the presence of educational campaigns, which can disguise the presence of more structural issues that play a role in the phenomena. While this study tackles the specific problem of fatbergs, the findings are applicable to a range of environmental problems.

The research was carried out as a critical discourse analysis, with the material analysed coming in the form of Thames Water policy documents, documents from WaterUK and DEFRA, a UK government department with responsibility over the environment. Other material was gathered through interviews with workers from Thames Water, NGOs and consultants who have worked with Thames Water, other players in the UK water sector, and workers in the wet wipe industry. This research plays a part in the formation of a global action plan to tackle the issue of unflushables in the sewerage network, something that has been identified as needed by other researchers.

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I would like to give special thanks to the following people for their help in my project. I would also like to take a moment to acknowledge that during the process of research I discovered that Thames Water's network contains many lead pipes to this day, and as someone who grew up drinking water from Thames Water's supply, please bear in mind that I am also now full of lead. If this paper doesn't read well, this could be part of the reason.

Thank you to all my informants, who gave up their time to provide me with valuable information that formed the bulk of my data. Thank you to my supervisor, Stina Powell, whose unwavering belief that this research was interesting and that I would be able to complete it spurred me on. Thanks also to Sanna Eriksson for her time in the Kalmar Nation library, and to Tara Dufour for serving as the inquisition for this thesis.

Appendix 1

The following is the basic interview guide. While the guide was adapted for individual interviewees, and subject to change due to the semi-structured nature of the interviews, the following provides an insight into how the bulk of my data was collected.

The aim of the interview guide is to help elicit data that will be useful to my research. However, as my participants are from different levels of seniority and connection to Thames Water and the issue of fatbergs, there will be differences in the questions asked. This approach draws on both the guided and semi-structured interview approaches, as I will both aim to “guide interviewees long responses” as well as having most of my “question prompts planned in advance” (Gubrium et al. 2012:195). I aim for these interviews to run between 30-45 minutes. Participants will be anonymised as e.g. “a representative of an NGO/ a repairer for Thames Water”. This guide is also based on the example of a guide for semi-structured interviews in Robson & McCartan (2016).

Introduction:

a. Can you explain what your role is at Thames Water?

b. How long have you worked with/for Thames Water?

i. Has anything changed in this time?

ii. Both within Thames Water itself (corporate/management structure)?

iii. And for your role specifically?

If yes- what- examples

If no- is there anything that you believe could have been changed?

c. Can you give me an overview of how the sewers are managed, in your understanding?

Fatbergs:

a. How does Thames Water manage sewer blockages?

I. Is there any way they could manage these blockages differently?

b. To what extent are fatbergs responsible for these blockages?

c. What is the role of wet wipes in the creation of fatbergs?

d. What is Thames Water doing to manage fatbergs?

I. Do you believe this approach to be working?

If yes, how?

If not, what else could be done?

e. Based on the current AMP (asset management plan)- it seems that Thames Water works on an education and enforcement policy for customers to avoid blockages.

What, if anything, do you know about this?

i. About education

ii. About enforcement

e2. Do you think education about sewers will reduce blockages?

I. Probe- e.g. does education change your own behaviour?

ii. Do you think Thames water customers know about how fatbergs are formed?

f. who do you think is responsible for the rise in the number of blockages caused by fatbergs?

Probe for as long as possible e.g. "what is the individual's/thames water/wet wipe manufacturers role?"

Thames Water:

a. What do you know about Thames Water's long term plans for the sewerage network?

i. The DWMP (drainage wastewater management plan)

ii. The TTT (Thames Tideway Tunnel)?

b. Do you think the fact that Thames Water is a private company impacts how they manage the network?

How?

c. Do you think the network would be managed differently if it was state owned?

Final questions:

Is there anyone else you think I should discuss this with?

Could I have their contact details?

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