

KEEPING WIPE OUT OF THE PIPES

SYDNEY WATER'S EDUCATIONAL PROGRAM TO INFLUENCE CUSTOMER BEHAVIOUR

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ABSTRACT

Sydney Water has observed that the disposal of consumer wipe products to sewerage systems is increasing, causing operational faults and leading to adverse environmental and customer outcomes.

Industry research into customer mindsets and disposal habits found that:

- Approximately one in three wipes users flush the wipes;
- Hand and body wet wipes are the main 'flushed' category;
- Men aged 15–44 are the main demographic target group to modify their behaviour.

The 'Keep Wipes Out Of The Pipes' program has been Sydney Water's most successful public education program since the drought period, coinciding with an innovative operational solution to optimise pump station performance.

INTRODUCTION

Sydney Water was faced with a challenge. It was seeing an increasing trend in faults at sewage pumping stations across its 12,000-square-kilometre operational area.

These faults were largely attributable to the increasing disposal of non-biodegradable wet wipes via the wastewater system. Further investigation revealed it was an escalating issue for water utilities around the world.

In the past two years alone, Sydney Water has removed over one million kilograms of non-biodegradable matter from the 679 pumping stations in its network, at an annual cost of several million dollars. The removal of non-biodegradable solids also poses environmental risks from overflows

resulting from pumping station blockages, and is a safety risk to maintenance technicians and treatment plant operators who are required to clear wastewater blockages and filter screens. A new problem needed an innovative solution.

Knowing that an operational response was only part of optimising network performance, Sydney Water developed a multi-faceted communications approach to better engage with the community, raise awareness and modify customer behaviour.

METHODOLOGY

While Sydney Water knew what the problem was (500 tonnes of wet wipes products being removed each year), it didn't know why customers were behaving in this way.

To seek the drivers of flushing wipes behaviour, Sydney Water commissioned a qualitative and quantitative research study, its objectives being to:

- Explore current wipes usage and disposal habits;
- Explore what people understand about the wastewater system;
- Gauge reaction to the wipes issue and willingness to change behaviour;
- Identify messages that might change behaviour;
- Explore which social media campaigns capture attention;
- Profile wipes users and their social and traditional media usage for targeting purposes.

The first round of research comprised three focus groups drawn from Sydney's

inner west and western suburbs, and a more targeted group from Penrith.

This series of focus groups tested awareness of the wastewater system and behaviours with using wipes products and how they dispose of them. Overall, flushing was seen as a habit of convenience, with little thought of 'where it goes after flushing'.

A sample of verbatim comments is provided in Figure 1.

Following the first round of qualitative research, in October 2014 more investigatory quantitative research was commissioned. The research method was an online survey of 600 people, representative of Sydney's population as per ABS data. Key measures included in the survey consisted of:

- Wipes usage and frequency;
- Disposal method;
- Biodegradability beliefs;
- Likely behavioural change;
- Media consumption profiling (to help with targeting messages).

The results were a first for the Australian water industry in understanding the depth and scale of customer use of wet wipes, the drivers of flushing and segmenting the target audience to better understand geographic and demographic influences. In summary the research found that:

- It's estimated that 12.1% of all wipes products are flushed (Figure 2);
- Approximately one in three wipes users flush (equating to one in four of the total Sydney population aged 15+);

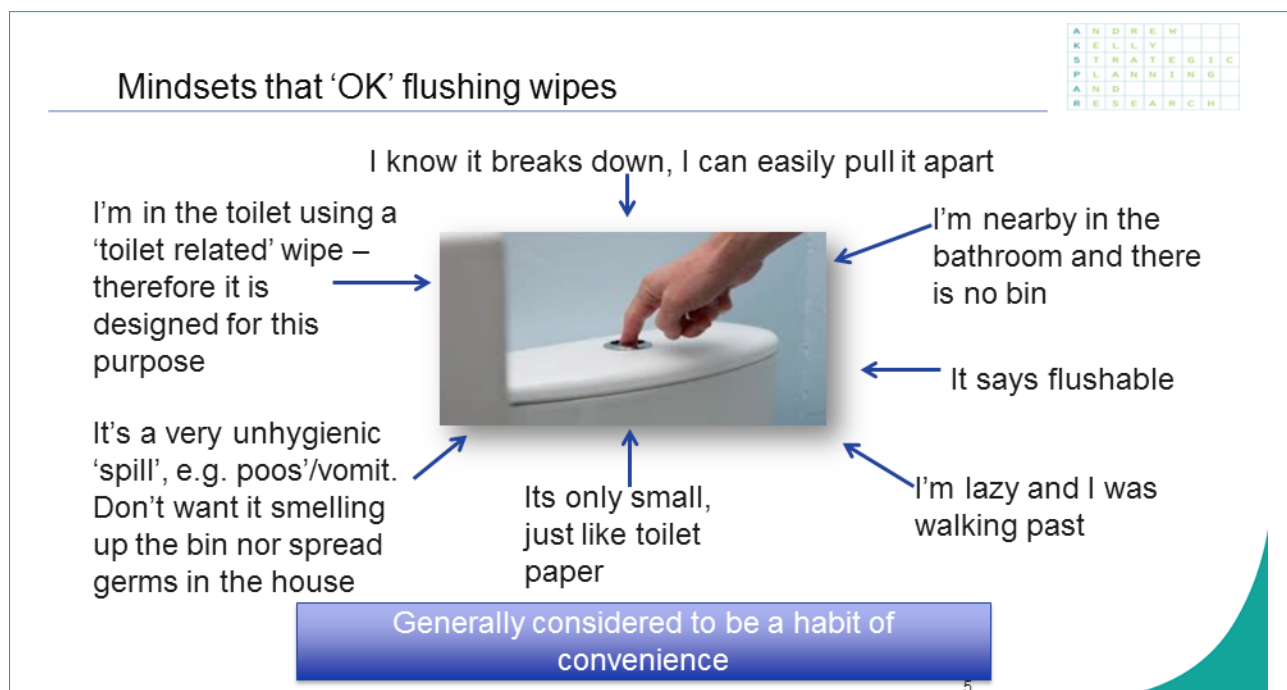


Figure 1. A sample of verbatim comments from focus groups.

- Intimate wipes are the key problem category – packaging claims are influential (more so for women);
- If products are perceived as biodegradable, they are twice as likely to be flushed;
- Focus areas
 - Geographic – south-west, west/north-west, central/inner-west Sydney
 - Demographic – males 15–44, with some emphasis on lower education.

The survey also found that 25% of respondents indicated they would reduce wipes usage after knowing cost/environmental impact, while 36% would look to switch to another 'biodegradable' option (Figure 3).

The research provided a clear objective and brief: how do we convey a message to a male audience that will prompt action and sustainable behaviour change? After workshoping a series of messages and visuals, a final round of focus groups was convened to test the messages for traction and relevance with customers. Showing messages in situ on a mock poster advertisement for the focus group participants to critique, we learned:

- The visual is as important as the written message;

- A mix of numbers and words holds attention better;
- Prominence of the tag line was important for lasting effect.

With this insight, the Keep Wipes Out Of The Pipes program launched in May 2015 across multiple communication platforms. The strategy was to engage and activate our customer base through creative social media posts that would raise awareness of the issue with a simple call to action. The creative concepts, developed by HOST Sydney, aimed to bring a problem that mostly exists underground to the everyday consciousness of our customers. It was about converting an 'out-of-sight, out-of-mind issue' into one of everyday relevance.

The creative idea was to share confronting statistics to highlight the magnitude of the issue. To ensure these were impactful and would have the ability to get the attention of our audience who are bombarded with messages, we knew we could not use just ordinary typography. Instead, statistics were created out of wet wipe waste, using 3D CGI models to deliver shock value (Figure 5). The CGI models were then utilised to create a suite of core communication assets, all of which featured a shocking statistic and the

call to action to "Keep Wipes Out Of The Pipes". These visuals were then able to be easily adapted for use across various channels, from social media, educational programs, right through to Sydney Water customers' bills.

The program was designed so that Sydney Water could engage with a range of key stakeholders in active, two-way dialogue around customer behaviour and education, including councils, community and environment groups, using owned or earned channels, including:

- Websites
 - Sydneywater.com.au
 - SydneyWaterTalk.com.au;
- Social media driving traffic towards our Sydney Water Talk platform;
- Traditional media;
- Articles in the Sydney Water bill insert newsletter, *Waterwrap*;
- Leaflets that operational and maintenance teams can use to explain to customers what can't be flushed when at a sewer choke job;
- Posters for community events and strata blocks;
- Demonstrations of the dispersible qualities of toilet paper vs 'flushable' wet wipes at community events;

- Small-scale poster advertisements in public conveniences at bars, clubs and shopping centres in our target areas of inner west and south-west Sydney.

Generating advocacy was a key objective of the campaign to help spread the message within the community. This has the advantage of avoiding traditional advertising costs and lends well to leveraging in social media.

Building staff engagement through empowerment was an important element in the communications program. Sydney Water staff were brought along on the program through staff lunchtime sessions and given access to a 'BBQ pack' of key messages they were authorised to use with families and friends to build word-of-mouth networks to support the program.

DISCUSSION AND RESULTS ANALYSIS

The Keep Wipes Out Of The Pipes program has been a success in raising awareness of the issue with our customers and driving consumer advocacy. The program has the added benefit of being a low-cost, high-reach strategy to engage with customers that could be leveraged quickly to target specific areas, demographics, stakeholder groups or topical events.

Traditional media angles were leveraged off the back of customers' social media interaction and the creative execution of the visual art and messages, giving the project team a continual stream of new content to broadcast. Key outcomes were:

- Sydney Water's longitudinal customer sentiment monitor tracks the performance of the program with customers every quarter. Belief among customers as to whether they "believe it is OK to flush wet wipes down the toilet from time to time" has trended down from the June 2015 baseline of 22% to 12% and, among our target audience of young males, 35% to 16% in December 2015.
- The media strategy has had a current cumulative reach of over 12 million people across print, online, radio and television. This includes Sydney Water and its spokespeople regularly being cited in the media.



Figure 2. Results of wet wipes research.

- Our social media reach has exceeded one million people at an average engagement rate of 6%, above the utility industry benchmark of 0.5–2%.
 - Customer advocates have emerged and directly engaged with wipes manufacturers on social media, questioning packaging claims and citing Sydney Water's campaign.
 - Our program triggered a CHOICE magazine investigation into the packaging claims made by wipes manufacturers, culminating in a major brand being awarded a 'Golden Shonky' at the 2015 Shonky Awards in Sydney. Over 5,000 people have joined CHOICE's Flushbusters campaign to have wipes products more appropriately labelled or removed from sale.
 - The dedicated campaign page on our community engagement platform, Sydney Water Talk, has received 4,290 hits since launching in April 2015.
 - Presentations to Culturally and Linguistically Diverse stakeholders seeking input for a wider CALD stakeholder wastewater education focus in 2016.
- Sydney Water learned during the campaign that the visual execution needed to be varied to maintain interest. This was achieved by using images taken of screenings at wastewater treatment plants and at sewage pumping stations.
- These images were posted with the geographic location to bring the issue to relevance for those local communities.

The integration of these communications approaches will have a potentially positive impact on customer and stakeholder sentiment over time, while allowing Sydney Water to closer engage and educate customers on safe disposal of non-biodegradable items.

Industry Engagement

The Water Services Association of Australia (WSAA) has been representing Sydney Water in collaborating with ACCORD and Australian Food and Grocery Council (associations representing wet wipes manufacturers)

This collaboration resulted in a forum in April 2015 where water utilities from across Australia, and wet wipes manufacturers, met to discuss the issues related to wet wipes and wastewater infrastructure. This was the first broad engagement between manufacturers and water utilities on this issue.

Sydney Water has also closely supported WSAA's successful approach to seek approval from Standards Australia to establish a mirror committee to the work of the international committee ISO/TC 224 WG 10 Flushable Products. This international committee is attempting to develop a standard for flushability, which can be recognised by the Australian water utility as appropriate for local wastewater system characteristics.

Operational Innovation and Response

Sydney Water has 679 sewage pumping stations (SPS). Wet wipes accumulate over time in the pump wells, causing many hazards and maintenance problems. Level sensors and instrumentation become blocked, pumps become choked and odour builds up.

Traditionally, maintenance crews go to SPSs on a regular basis to manually clean the wet well. Issues with this process include excessive water usage, high labour costs, confined space entry, pump chokes and ineffective cleaning.

This time-consuming and labour-intensive process is expensive, with each SPS requiring on average five to six manual flushes per year. Sydney Water has introduced an automated process of self-cleaning of wet wells on SPSs.

Does education change behaviour? After understanding the environmental and cost impact of flushing wipes:



Figure 3. Proposed purchasing behaviour after becoming aware of environmental and cost impacts of wipes.

Whose job is it to educate?

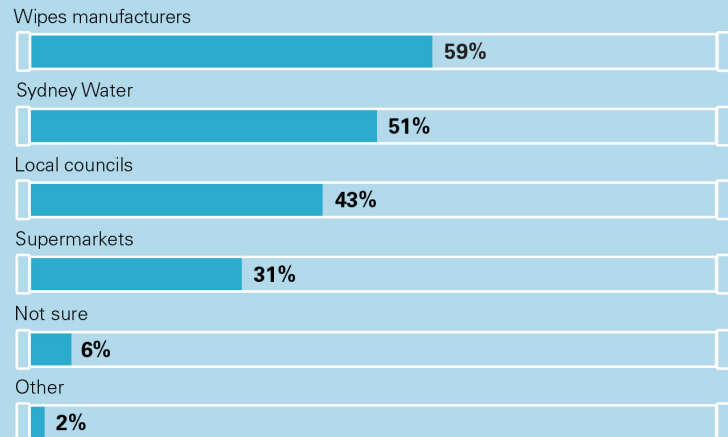


Figure 4. Survey results on whose job it is to educate about wet wipes.

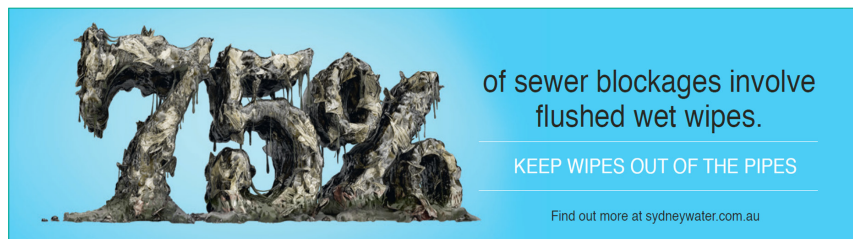


Figure 5. An example of the final creative.

This process also optimises performance of the SPS and, when fully implemented, will significantly reduce Sydney Water's operating costs.

The "auto-flushing" was achieved by modifying the cut-out levels of pumps during peak flows for each site via the use of the SCADA system.

The concept is that if you started with a clean well you could keep it clean by running the pumps down to a low level near the top of the pump intake so that the pump would skim off the surface material. If done on a daily basis there would be no extra burden on the pumps and there would be no build-up of material, leaving the well clean. This leads to no build-up of material on the measuring instruments and large lumps no longer forming to choke pumps. Without build-up of surface material, odour is significantly reduced. The direct benefits of having an automated system included a significant reduction in cleaning costs, safety risks being removed, correction of other sewage pumping station faults during implementation, reduction in odour complaints, and deferral of major capital outlay for equipment or construction.

CONCLUSION

Sydney Water's Keep Wipes Out Of The Pipes program challenged the norm of community education programs. After intensive research to understand and identify the key drivers of behaviour, Sydney Water tested its campaign themes to ensure relevance and traction with its target audience.

The program has raised awareness of a previously unpopular issue and engaged customers, the media and stakeholder groups with a creative approach. The program has also established a platform for broader wastewater engagement with the community on more complex issues like source control and wet-weather overflow abatement.

A key ongoing focus for the program will be to introduce new messaging to counter the disposal of other bathroom products and fats and oils by customers, and better engage CALD customers.

The program has also triggered a wider water industry response, with Water Services Association of Australia leading the direct engagement approach, and hygiene industry groups, the Australian Food and Grocery Council and ACCORD, offering expertise in the development of the international standard on flushable products.

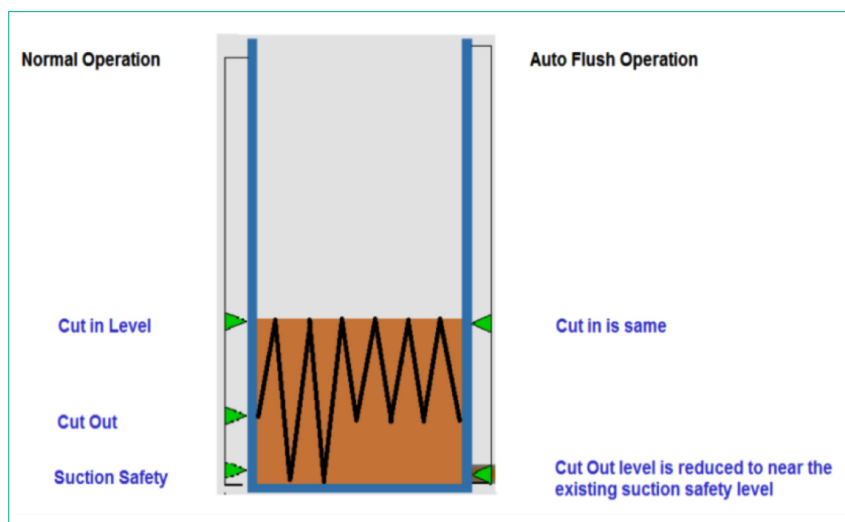


Figure 6. Auto-flush changes to wet-well operation.



Figure 7. Before and after shot of the implementation of the auto-flush pump operating regimen.

The increase in non-biodegradable solids in the network has also led to operational innovation, with the development of the auto-flush regimen for pumping stations (Figures 6 and 7). Operational benefits include a reduction in breakdowns, improved sewage treatment operations, potential reduction in chemical dosing for odours, improved pump performance and an annual saving in operating expenditure across all Sydney Water sewage pumping stations.

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