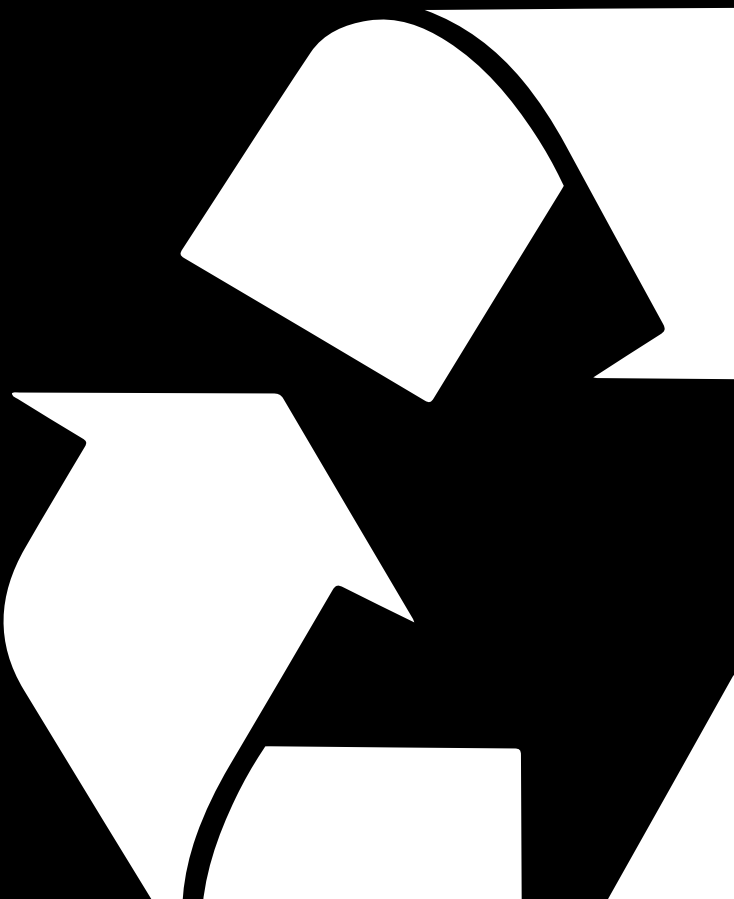
Reducing Plastic Waste

> Scot Young Research Ltd



syrclean.com

> REDUCING WASTE SENT TO LANDFILL - SYR SWITCH, CRADLE TO CRADLE

On a regular basis, there seem to be stories in the news in the UK of landfill sites causing problems for local communities. From old, neglected sites eroding and releasing decades-old rubbish into waterways, to current landfills emitting high levels of gases like hydrogen sulphide, making people in neighbouring towns unwell, it is clear that landfill sites are increasingly becoming a problem.

The cause of many such issues is undoubtedly that many waste disposal and landfill facilities, not just in the UK but on a global scale, are rapidly becoming overwhelmed with the sheer volume of waste they are facing. There is a pronounced concern that currently operating landfills in many places will soon reach full capacity, and the solutions of the past – namely, in the case of many Western countries, exporting their waste to other nations, moving rather than eliminating the problem – are evidently no longer a sustainable option. Hence, many countries and their governments have been forced to develop new strategies to cope with this issue, and businesses and individuals alike are increasingly seeking ways to lessen the burden by minimising their own impact on the environment.

> UK LANDFILL - THE FACTS

Waste is indeed a global problem, and one that is getting worse, with annual world waste generation estimated to increase by 70% by 2050 if it continues rising at the current rate. However, whilst it is an international concern, the culpability is not so evenly distributed: high-income countries, mainly comprised of European and North American nations, make up 16% of the world's population, but generate 34% of the world's waste. The UK specifically produces 222.2 million tonnes of total waste per year, with England being responsible for most of this amount.

Out of the total volume of waste produced globally, the vast majority (>70%) is sent to either landfill or an open dump, compared to 13.5% that is recycled. In the UK, the volume of landfilled waste is steadily decreasing to give rise to more efficient and sustainable methods of waste disposal, but every year 12 million tonnes of waste is still sent to landfill. Indeed, despite ever improving modern recycling technologies, waste management services in many areas still lack the facilities to properly recycle plastic, meaning that sending plastic waste to landfill remains the most convenient, if harmful, solution for the majority of governments.

A significant portion of landfilled waste, not only in the UK but internationally, is comprised of plastic products. Second only to food and green waste in terms of volume of waste sent to landfill, unlike these materials plastic is not biodegradable. Depending on the composition of the plastic, and the conditions of the landfill site, the time it takes plastic products to decompose differs, but it can sometimes be hundreds of years before the material breaks down naturally.

According to National Geographic, out of all the plastic that has been manufactured globally since mass production began in the 20th century, only 9% has been recycled. A further 12% has been incinerated, meaning the remaining 79% is still present on the earth, either left in landfills or, even worse, as litter elsewhere.

There has been a rapid increase in the production of plastic since the 1950s, the rate doubling every 15 years, and despite efforts to reduce usage it is still a material that many sectors are highly reliant on, the cleaning industry included. Unless a more sustainable waste disposal alternative can be found it is likely that landfill sites across the world will continue to worsen, and local environments along with them.

> THE CLEANING INDUSTRY & PLASTIC WASTE

“Plastic is embedded in every part of the cleaning and hygiene supply chain” - Stephen Harrison, Chairman of the Cleaning & Hygiene Suppliers Association (CHSA); Doug Cooke, Chairman of the Cleaning Support Services Association (CSSA); Chris James, CEO of Waste Management Industry Training & Advisory Board (WAMITAB)

The cleaning industry is one that has always been very reliant on plastic. Used to make everything from mop handles to product packaging, even with the introduction of green and eco-friendly alternatives emerging more into the market, plastic is still an indispensable material at all levels of the industry. In recent years, there has been a desire, however, amongst businesses on both ends of the supply chain to be more active in recycling the plastics that they produce or use, although this is not always easy to do due to the contamination that such products may garner over the course of their life.

Usually the material of choice for most cleaning tools, products like cleaning buckets are generally made of tough, durable plastics, chosen for their water and chemical resistance. This is obviously extremely advantageous when in use, as such plastics will be not be corroded by the chemical solutions used in daily cleaning routines, unlike other materials that may be. However, this durability means that many plastic cleaning products will take a very long time to decompose naturally if sent to landfill, potentially releasing harmful chemicals and microplastics into the environment as they break down.

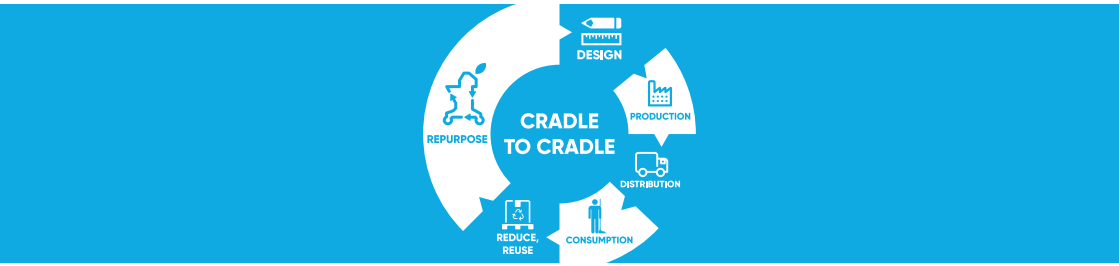
SYR Switch

At SYR, we are aware of our environmental impact, and always strive to achieve sustainability in our products and manufacturing processes. Through constant research and development, SYR is hoping to break the cycle of plastic to landfill, by making the most of available resources.

As a result of advanced tooling and manufacturing processes, the creation of SYR products like the LTS and TC20 mopping combos generates very little scrap, with less than 1% of the total plastic left behind after the moulding process. Even this small amount, however, is not wasted. To create a manufacturing system that produces 0% waste within the factory environment, SYR takes materials previously destined for landfill and gives them a new life. Recycled components and regrind plastics are repurposed in the SYR Switch range, a collection of cleaning products made specifically to minimise waste production, by recreating some of our most popular products with recycled materials.

Built to have the same quality and durability as the rest of our products, customers can be confident that when they see the SYR Switch logo, they are purchasing a product that is both reliable and directly supporting sustainability over its whole lifecycle.
For instance, the LTS-R, as the green twin of the LTS mopping combo, will still on average last six times longer than a standard dolly mop bucket, not just saving money, but also reducing virgin plastic use by almost 70%.

Not only does the Switch range decrease the amount of plastic ending up in landfill, it also benefits the environment in other ways.
Plastic manufacturing is a notoriously high energy-consuming sector, but making products recycled materials requires far less energy than creating virgin plastic from scratch.
This in turn reduces fossil fuel use and subsequent carbon emissions: 109 TC20-R mopping systems saves 1 metric tonne of plastic, equivalent to 3000kg of CO_2.



Upon research into the reusability and recyclability of different types of plastics, polypropylene, a durable and flexible thermoplastic, ranked the highest for its potential to be used again whilst still retaining its strength. As this is the material that SYR primarily uses in the manufacturing of products like our buckets and mopping combos, this opens up the potential for SYR to make the most of the materials that we already have in circulation, and prevent unnecessary waste from ending up in landfill.

The latest step in SYR's sustainable development is Cradle to Cradle, a scheme created with the aim of reducing waste at all levels of our business, and helping our customers to do the same. SYR recognises that as a large scale producer of plastic products we have a responsibility to lessen our carbon footprint however we can, including through developing our innovations and processes to make the most of the earth's finite resources and preserve energy. We know that the only way to do this effectively is to redefine our business and offer a truly unique service to our customers.

All SYR products are built with strength and durability in mind, but if after many years of service they become worn and need to be replaced, our customers now have the option to send old products back to us. This is hugely beneficial to the environment: cleaning tools, once discarded, are often sent to landfill, as they may be contaminated with chemicals used throughout the products' lifespan and can challenging to recycle without adequate facilities. In landfill, the product's durability, seen as a blessing whilst in use, is now a curse, meaning the product will take a very long time to break down, polluting the environment for years and years.

Our Cradle to Cradle system works to prevent this by halting the progression of product to landfill, creating a circular economy. Our customers now have the option to send their discarded SYR polypropylene products back to us at no charge to them or their company. With this closed loop recycling system, would-be waste, such as broken or worn plastic cleaning buckets, is transformed by SYR's advanced plastic recycling and manufacturing processes into completely new and ready-to-use products.

All SYR products are built with strength and durability in mind, but if after many years of service they become worn and need to be replaced, our customers now have the option to send old products back to us. This is hugely beneficial to the environment: cleaning tools, once discarded, are often sent to landfill, as they may be contaminated with chemicals used throughout the products' lifespan and can challenging to recycle without adequate facilities. In landfill, the product's durability, seen as a blessing whilst in use, is now a curse, meaning the product will take a very long time to break down, polluting the environment for years and years.

Our Cradle to Cradle system works to prevent this by halting the progression of product to landfill, creating a circular economy. Our customers now have the option to send their discarded SYR polypropylene products back to us at no charge to them or their company. With this closed loop recycling system, would-be waste, such as broken or worn plastic cleaning buckets, is transformed by SYR's advanced plastic recycling and manufacturing processes into completely new and ready-to-use products.

References

CHSA. (2019, February 12). The Cleaning Industry Plastics Pledge. CHSA. https://chsa.co.uk/the-cleaning-industry-plastics-pledge/

Department for Environment, Food & Rural Affairs. (2021, July 15). UK Statistics on Waste. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002246/UK_stats_on_waste_statistical_notice_July2021_accessible_FINAL.pdf

Gooddy, D.C., Macdonald, D.M.J., Lapworth, D.J., Bennett, S.A., and Griffiths, K.J. (2014). Nitrogen sources, transport and processing in peri-urban floodplains. Science of the Total Environment. 494-495, 28-38.

Katz, C. (2019, March 7). Piling Up: How China's Ban on Importing Waste Has Stalled Global Recycling. Yale Environment 360. https://e360.yale.edu/features/piling-up-how-chinas-ban-on-importing-waste-has-stalled-global-recycling

Kaza, S., Yao, L., Bhada-Tata, P., Van Woerden, F. (2018). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. Urban Development; Washington, DC: World Bank.

Parker, L. (2018, December 20). Planet or Plastic?: A whopping 91% of plastic isn't recycled. National Geographic. https://www.nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-environment

Contact Us

syrclean.com

Lye By-Pass, West Midlands, United Kingdom, DY9 8HG

contact@syrclean.com

+44 (0)1384 421421