

DAYS AT THE BEACH

A shampoo bottle made with recycled beach plastic offers hope for stemming the tide in ongoing epic battle against marine pollution



BY GEORGE GUIDONI, EDITOR

The idea that there will be more plastic than fish swimming in the world's oceans within our lifetime may seem unfathomable, but according to some leading environmental experts, it's an inconvenient reality fraught with disastrous consequences for mankind and the planet.

According to a widely cited 2016 report from the highly-respected **Ellen MacArthur Foundation** in the U.K., there are at least eight million tonnes of plastics leaking into the ocean each year—threatening to overwhelm and obliterate the planet's increasingly fragile marine ecosystems.

"In a business-as-usual scenario, the ocean is expected to contain one tonne of plastic for every tonne of fish by 2025," the report warns, "and by 2050 more plastics than fish [by weight]."

While such dire warnings are all too often shrugged

off as unfounded hysteria in today's new political climate of global warming denial, it's hard to argue with the mounting body of ugly evidence washing up on beaches around the world in the form of discarded plastic bottles, bags, pouches and other packaging debris that continuously escapes into the world's waterways at an alarming rate.

On the bright side, some of the world's leading consumer packaged goods (CPG) brand-owners and manufacturers who are the biggest end-users of the runaway plastic packaging are finally owing up to their part in creating the mess, and the urgent need to start cleaning it up pronto.

For the Cincinnati, Ohio-headquartered consumer goods colossus **Procter & Gamble (P&G)**, this meant not just cleaning up the littered beaches, but using the collected bits of plastic to make a useful new product, rather than simply divert the rubbish



TerraCycle's founder and chief executive officer Tom Szaky making a presentation at the 2017 World Economic Forum in Davos, Switzerland, outlining the basics of his company's collaboration with Procter & Gamble and SUEZ Environment that collects washed-up plastic waste from the world's beaches and upcycles it into recycled HDPE pellets that can be used to make new useful products, including the new Head & Shoulder brand shampoo bottle launched by P&G last year in France and Germany.

to landfills.

After conducting extensive studies, P&G decided to leverage the global mass appeal of its iconic *Head & Shoulders* shampoo brand to bring the issue to public light in the form of a distinctively-marketed special bottle containing 25-percent reused plastic waste collected from polluted beaches, oceans, rivers and other waterways.

To carry out the project, P&G turned to its trusted long-time recycling partner **TerraCycle**, Trenton, N.J.-based waste recovery company specializing in the “upcycling” of hard-to-recycle waste.

“We have already worked with P&G for over five years

across the world running over a dozen national collection and recycling programs—from recycling household cleaner packaging in Canada to dirty diapers in Holland,” says TerraCycle’s chief executive officer and founder Tom Szaky.

“The success of those programs gave the P&G team to entrust their Ocean Plastic supply chain initiative to the TerraCycle team,” says Szaky, who grew up in Toronto before enrolling at **Princeton University** and founding TerraCycle in 2001 after dropping out of his sophomore year.

The two companies, both active high-profile members of **PAC Packaging Consortium** and its **PAC NEXT** initiative, quickly proceeded to bring their vision to life after

partnering up with the French utility company **SUEZ Environment**, which specializes in wastewater treatment and waste recovery.

“This all moved relatively quickly after P&G came to us with their challenge in late 2016,” Szaky recalls. “All the R&D, supply chain creation and delivery of the first order were completed in time to announce the project to the world at the annual World Economic Forum in Davos, Switzerland, in January of 2017.

As Szaky recalls, “The main issue was to get the maximum amount of ocean plastic into the bottle.

“Bottle molders needed testing data to make sure the material wasn’t too degraded to use, so the R&D process was quite involved, with lots and lots of testing.

“We had to fully understand the material specifications of the standard H&S bottle so we could make sure the resin we produced would be moldable,” Szaky relates.

“After much testing, it was determined that we could go to a maximum content threshold of 25 per cent.”

Each of the three partner companies made significant input in the development of the suitable recycled plastic pellets, says Szaky, also extending credit to hundreds of different NGOs (non-governmental organizations) and other volunteer group for running collection programs worldwide.

“TerraCycle’s role was to manage the entire process—from on-site collection and getting that waste to TerraCycle warehouses to processing it into the finished plastic pellets to be supplied to P&G’s bottle manufacturing partners,” Szaky explains.

“Once the material is received, TerraCycle does a manual sort to remove hazardous materials or other unrecyclables, like fishing nets, and send the waste to a SUEZ facility, where it is mechanically sorted, cleaned and pelletized.

“The finished HDPE (high-density polyethylene) pellets are then sent to P&G’s bottle manufacturer APLA to be compounded, formed and filled.”

According to Brent Heist, head of P&G’s Packaging sustainability team in Cincinnati, the new bottle is the “first of its kind” in terms of containing significant recycled content *and* also being recyclable itself.

“It also matched all the technical criteria necessary to ensure consumers have a delightful user experience,” says Heist, while also praising the gray bottle’s distinct shelf impact and differentiation, along with its effective messaging about the bottle’s environmental attributes.

“The public response to the Head & Shoulders beach plastic campaign has

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Volunteers from Initiatives Océanes, a cross-France program administered by Surfrider Europe, getting ready to begin collecting plastic waste washed up ashore one of the many beaches cleaned worldwide as part of a unique collaboration between TerraCycle, Procter & Gamble and SUEZ Environment.

been fantastic,” Heist extols.

“Consumer responses have indicated a strong connection to the need for increased recycling to help ensure that their beaches are not polluted with plastic waste.”

Szaky estimates that the project has effectively removed 80 tonnes of plastic waste from beaches and waterways across six continents.

“As far as we know, this is the largest solution to ocean plastic to date in terms of volume and the recycled content used in the package,” says Szaky, citing “incredible” consumer response to the unique new *Head & Shoulders* shampoo bottles launched across France last summer.

“That successful launch enabled P&G to develop exclusive relationships with top retailers Carrefour in France and Rewe in Germany,” he says, “and both retailers saw very strong sales of the product.

“Thanks to that early success, the project is now being expanded to North America, Latin America, Asia, more EU countries and Oceania,” says Szaky, noting the new P&G bottle has gathered seven international awards in 2017 alone—including the **United Nations (UN)**’s *Momentum for Change Lighthouse Activity Award* last fall.

“We knew we were doing something worthwhile and exciting,” Szaky reflects, “but to be recognized by an organization like the UN for our efforts is pretty amazing and very inspiring to our partners, our team and our collectors.

“We hope this will be just the beginning and that this platform will continue to make a meaningful impact on the global crisis of ocean plastic,” says Szaky, noting very positive early indications.

“From the beginning, we and P&G talked about it as a bigger movement—and not a one-off market-

ing campaign,” Szaky relates. “In just a few months, a beach plastic dish soap bottle will go on shelves in the U.K.,” he adds, “and we are in the planning stages for other launches later this year.

“In addition, P&G has expanded their ‘Ocean Plastic’ platform to their dish-care products business and is likely going to add other business units this year, while a number of their competitors have reached out to us, aiming to launch similar platforms in 2018 and 2019,” Szaky states.

While Szaky acknowledges that the 80 tons of plastic removed from the waterways as part of the new *Head & Shoulders* bottle development may at this stage be the proverbial drop in the ocean, he is very upbeat on positive momentum the endeavor has built up for tackling the global marine pollution problem head-on.

“Instead of just talking about something, we figured out a way to do it by focusing on execution, rather than theory,” he states.

“The P&G team really stepped up to the plate by making a firm commitment to use this plastic,” Szaky points out, “and that drove their organization, as well as ours, to make it a reality quickly and in a big way.

“It would have been easy to talk and analyze costs and benefits a lot longer, but we all jumped in and focused on making execution the Number One priority.

“It was only after that we looked at the cost efficiencies and other supply chain benefits, which incidentally were also realized in a big way.”

Says Szaky: “We and P&G are on a mission to call attention to the gargantuan global issue of ocean plastic pollution.

“We are educating through messaging in-store and on the bottle, we are encouraging consumers to physi-



From Left: Sarah Teeter of TerraCycle, Jean-Marc Boursier of SUEZ Environment, and Lisa Jennings of Procter & Gamble receiving the United Nation’s Momentum for Change Lighthouse Activity Award at a special ceremony last year in Bonn, Germany.

cally participate in beach cleanups, and to purchase the bottle to show support for the issue,” he concludes.

“Through these opportunities, we will hopefully help people understand the problem of ocean plastic, change their thinking about waste, and encourage new consumer behavior.”

Adds Heist: “Consumer education and awareness of the need to recycle is a continuing effort [and] P&G will continue to expand our campaign to help drive awareness for the need to recycle in other countries as well.

“The ideal outcome would be that all consumer packaging is properly collected, sorted, processed and recycled into usable plastic materials to be used in packaging again,” Heist concludes.

“There should not be any plastic waste on the world’s beaches, full stop.”