# MAKING CHILDREN INSTRUMENTAL IN REDUCING OUR eWASTE

Electrical and electronic waste – also known as eWaste or WEEE – is the fastest-growing single waste stream in the world.

By the end of this year, there could be as many as 50 billion electronic goods produced annually. This will lead to a tsunami of eWaste, estimated to be over 50 million tonnes globally in 2020. This is enough to fill the Eiffel Tower 5,000 times.

An innovative new project exploring themes of eWaste through music, songs and imagery is underway, led by Ian Williams, Professor of Applied Environmental Science and an expert in the eWaste field.

Featuring a plethora of collaborators, Transitioning to a Circular Economy with creative artists (TRACE), includes the SÓN Orchestra (Southampton's professional orchestra and Turner Sims Orchestra in Association), professional artist Susannah Pal, Robin Browning, composer and artistic director, musician Anca Campanie, Otterbourne CE Primary School students and teachers and University of Southampton scientists. Ian has brought them all together to capitalise on the topical issue of eWaste and its global impact.

Ian has spent his career as a specialist in the area of waste management, particularly the idea of designing waste out a system before it's even created. The idea for this project comes from his previous work on intergenerational influence, also known as pester power.

Ian explained, "Back in 2008-11, with environmental charity Wastewatch, I worked on the THAW project, which was the first serious attempt to measure the intergenerational influence of an education programme on behaviour at home. Focusing on primary-age children, the study found that the school-based waste education programme led to increased household participation in recycling as well as declining levels of residual waste. The study recently inspired researchers to show that teaching children about climate change in school significantly increased their parents' concern over the issue.

"I have continued this intergenerational influence work. One purpose is to actively demonstrate how the thinking, characteristics, skills and attributes of engineers can be integrated in the real world of busy schools and colleges to engage the next generation. An example is my work with the Primary Engineer Programme illustrated by the successful development of 'The Fun Noisy Bin'. I am currently working with infant, primary and secondary school children in Southampton, and with Southampton City Council, to encourage

**For further information, visit:**
https://ewaste.thesonproject.com

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parents to travel to school via active transport, such as walking or cycling, in order to improve air quality in the city.

"So, TRACE has been borne out of all that previous work in this area. The project involves working with leading creative artists to raise public awareness of the need for sustainable resource management. We are using art and music to showcase firstly the socio-economic and technical challenges of waste management, and secondly ideas generated by research that may provide solutions.

"We are developing a co-composed musical performance piece pairing professional musicians with schoolchildren as a creative response to themes of waste and recycling, with a legacy of deeper understanding of environmental issues, catalysing societal change.

"Working with Otterbourne CE Primary School students, musicians from the SÓN orchestra and myself have run workshops looking at discarded or unused electronic items – from mobile phones to cameras, Casio keyboards to speak-and-spells. We developed songs using lyrics written by the children. They have been extremely creative, some of the names of the pieces include Bob the iPhone and Monster Electric Robot Rap. It truly is their reaction to an absorbing global issue."

A 20-minute-long piece, combining all the children have created, was performed by the children and musicians as part of Southampton Science and Engineering Festival (SOTSEF) 2020, involving instruments fashioned from waste, sampled sounds from multiple sources, all sharing the stage with live string, percussion and keyboard instruments.

Running along this musical element to the project, artist Susannah Pal is working collaboratively, creating emotive art that inspires active public participation in the circular economy. Her blog gives an overview of her ideas. This was on display at the SOTSEF performance and throughout Science & Engineering Week, in the Hartley Library on Highfield Campus.