

Burning of Waste Workshop 2

Background Paper

Overview

The uncontrolled burning of waste takes place worldwide, particularly in low- and middle-income countries where there is a lack of waste management infrastructure. The evidence around the prevalence of this issue and its harmful effects is poor. A recently completed [Global Review on Safer End of Engineered Life](#) by the University of Leeds and partners identified open burning as a dangerous issue that needs urgent attention globally.

The [Engineering X Safer End of Engineered Life programme](#) in partnership with the [International Solid Waste Association](#) seeks to raise this issue on the global agenda. Following an initial workshop held on 14th January 2021 with a larger group (80 participants) focused on validating the Global Review and sharing experiences, you are invited to this 2nd closed workshop. This workshop aims to develop a programme of future positive impact for the Safer End of Engineered Life programme and beyond.

We hope these workshops will act as starting points for action around this global challenge and facilitate the creation of a community working to address it.

Background

Uncontrolled burning is often the result of poor waste management systems and usually takes place in many low- and middle-income countries. Waste is burnt in residential areas and within industrial or commercial premises due to the lack of availability, the unreliability, or sometimes the complete absence of a waste collection and disposal systems. The Global Review concluded that “ending the practice could result in a requirement to treat and dispose of close to a billion tonnes of solid waste worldwide.” Highly engineered final disposal options such as landfills require large investment and are, therefore, beyond the budgets of many cities and regions, particularly in low- and middle-income countries.

The practice can lead to a number of public and environmental health concerns. For example, direct health impact on E-waste recyclers, those working in factories and those waste workers who burn materials to reduce waste and those who burn to extract metals. In addition, these E-wastes contain hazardous materials such as lead and arsenic. There are also risks posed to the communities where the waste is burnt, especially to the most vulnerable segments of the communities such as children, the elderly, pregnant women, and those with co-morbidities. The waste can also directly lead to contamination of the land and water (i.e. surface and ground water).

The Review concluded that, at the same time, there are a number of (perceived) benefits of burning waste. For example, burning occurs to ‘get rid’ of accumulated waste or in the form of regular burning as an accepted practice. The burning or partial controlled burning of waste is

also an accepted practice in health emergencies and refugees/displacement camps. For the E-waste recyclers, burning the waste provides a 'quick and easy' method to access the enclosed metals.

Given the complexity of the issues around the burning of waste, developing strategies to effectively understand and address the issues requires a multi-disciplinary approach. The Global Review, which was conducted through the lens of a hazard-receptor pathway, serves to inform future programme to develop this approach. The Engineering X Safer End of Engineered Life programme would like to develop an impactful programme to address the global challenge of un-controlled burning and calls for others to join this mission.

Workshop 2

To further validate the findings of the Global Review and to develop a programme of future positive impact, Engineering X in partnership with the International Solid Waste Association would like to invite you to a global workshop on **Thursday 21st January 2021** to help us develop the programme.

This workshop will bring together a multi-disciplinary and cross-sector group of global experts to validate the findings of the Global Review and to develop a programme of future positive impact. This workshop will be by invitation only and participants will be invited based on their experience, interest, and commitment to this challenge.

Workshop 2 will follow an initial, open workshop held on Thursday 14th January with a larger group (80 participants) focused on validating the Global Review and sharing experiences. Findings from this workshop will feed into Workshop 2.

Invitees will be contacted by Hazel Ingham, Programme Manager and invited to confirm their place **by 18th December 2020**. The workshop programme will be shared with you by 10th January 2021.

Purpose and Outcome

The overall purpose of the workshop is to discuss the nature of potential programmes to address the issue of waste burning. Consequently, a substantial part of this workshop will be used to develop recommendations for future programming for the Safer End of Engineered Life programme and beyond.

We are aiming to ultimately develop options for addressing the key issues around the burning of waste. For example, how do we best protect the livelihoods and the lives of stakeholders and their communities who are burning waste? How do we best assess the issue of opening burning to enable regular monitoring? What governance structures are required? How best might we engage/communicate with a range of stakeholders, particularly those who are 'on the ground'? We are aiming to build a community of practice that will bring together the perspectives and actions of stakeholders not only from around the world, but also from a range of disciplines. Ultimately, the aim is to develop a community of practitioners, academics, policy makers and related stakeholders to develop holistic, strategic approaches to addressing the issues surrounding the global burning of waste.

Context & Partners

Global Review on Safer End of Engineered Life

On behalf of Engineering X, the University of Leeds led by Dr Costas Velis with partners the International Solid Waste Association (ISWA), D-Waste, and Independent Safety Services Limited (ISSL), carried out a Global Review on Safer End of Engineered Life. This review looked at categories of engineered materials and the safety of associated disposal and decommissioning practices. The thematic areas of plastic, construction and demolition, medical, electronic waste and land disposal were examined. The research identified the immense harm caused by burning of waste worldwide, particularly in low- and middle-income countries, and the scale of the issue.

The Global Review will be published on **Monday 14th December 2020** and shared with all workshop applicants on this date.

Engineering X

[Engineering X](#) is a new international collaboration founded by the [Royal Academy of Engineering](#) and [Lloyd's Register Foundation](#) that brings together some of the world's leading problem-solvers to address the great challenges of our age. Our global network of expert engineers, academics and business leaders are working in partnership to share best practice, explore new technologies, educate, and train the next generation of engineers, build capacity, improve safety and deliver impact.

International Solid Waste Association Partnership

[The International Solid Waste Association](#) (ISWA) is an international network of waste professionals and experts from around the world whose mission is to promote and develop sustainable and professional waste management worldwide.

Engineering X is delighted to partner with ISWA on this important work that seeks to bring much needed attention to the urgent issue of burning of waste. Through this partnership and workshop, we hope together to raise the profile of this issue and facilitate the creation of a global community of practice, incorporating the impressive ISWA membership network, around the burning of waste worldwide.

Contact

If you have any questions or would like more information, please contact **Hazel Ingham, Safer End of Engineered Life Programme Manager** at hazel.ingham@raeng.org.uk.