

# RECYCLING & WASTE MANAGEMENT

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## Life cycle assessment in the construction sector

Noemi Arena, Terry Clarke and Damien Canning  
Costain, UK

Every year in England more than 434 million tonnes of waste are generated. The construction and demolition sector is responsible for 30% of the total and also has a significant impact in terms of natural resource and energy consumption, as well as pollutant emissions into the atmosphere. As one of the most competitive sectors in the country, with continuously growing demand, we cannot just “stop building” but what we can do is apply more sustainable strategies by using waste as a resource and driving the concept of circular economy. With the aspiration of developing a circular and sharing economy for large infrastructure projects, Costain and Loop are collaborating to analyze the material flows on Costain’s projects to define alternative solutions aimed at resource optimization and waste reduction. For instance, a program has been set up to manage demolition waste for the HS2 enabling works

project in Euston to keep the residual materials in the loop, giving them a higher value uses. The environmental benefits associated with moving resources from waste streams back into use are identified and quantified by means of Life Cycle Assessment (LCA) with attributional and consequential approaches according to the different projects. The volume and quality of data in Costain’s possession is of great value for the development of the LCAs because it comes directly from the constructors of, and suppliers to, the projects. With the use of this robust and science based tool the impacts of these alternative circular business models are measured and tested, helping to set priorities and giving a baseline for the product in question, so any improvements or deviations can be compared and progress can be monitored.

e: [Noemi.Arena@costain.com](mailto:Noemi.Arena@costain.com)