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DIPARTIMENTO DI
INGEGNERIA CIVILE E
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AWARE
Assessment on WAste
and REsources

# SEMINAR ANNOUNCEMENT

White Room (Aula Bianca), Building 21, 6th floor
Department of Civil and Environmental Engineering

18 July 2018 – 14:30-17:00

## *Present status of E-waste management in Australia and potential ways for improvement integrating the concept of reverse logistics, material flow analysis (MFA) and life cycle assessment (LCA)*

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Abstract

Electronic waste (e-waste), also known as waste electrical and electronic equipment (WEEE), is one of the major waste streams in modern society. If disposed of inappropriately, this can cause severe environmental damage. On the other hand, the waste is a valuable source of secondary raw materials as well as rare earth metals. In 2016, global e-waste generation reached 44.7 million tonnes and Australia is one of the highest per capita e-waste generating nations in the world. Current e-waste related regulation mainly focuses on obsolete television and computers under the National Television and Computer Recycling Scheme (NTCRS). MobileMuster is the only government accredited mobile phone recycling program. The initiatives only consider few items (computer, mobile phones, and television) among a large number of e-waste items, which is one of the weaknesses of the system. The purpose of this research project is to evaluate the current e-waste management system in Australia and propose potential ways for improvement. Assessing customer awareness towards e-waste disposal, role of local government councils, estimation of e-waste generation and material flow analysis (MFA) of the waste stream, efficient reverse logistics operation for waste collection and recovery and finding out the most environmentally friendly technologies among the alternatives using life cycle assessment (LCA) are the investigation areas of the current project. This research project also found the importance of efficient data management for e-waste national inventory and in the context, proposes an innovative approach combining product, information and financial flow of the system to develop a sustainable e-waste management system for Australia.

Bio-sketch

**Md. Tasbirul Islam** currently pursuing PhD degree at the School of Engineering, Macquarie University, Sydney, Australia. Prior to this degree program, he completed his MSc degree in Mechanical Engineering from Politecnico di Milano (Lecco Campus) in 2010. He also received another master degree in 2012 on Joint European Master in Comparative Local Development (Master-CODE) under the Erasmus Mundus program where the host university was University of Trento, Trento, Italy. His research activities revolve in the Industrial Engineering, Mechanical Engineering and Green Economics domain. E-waste management, reverse logistics, closed-loop supply chain and solar-renewable energy are his primary research interest. He is interested in conducting research through material flow analysis (MFA) and life-cycle assessment (LCA).

**Reference: Lucia Rigamonti** (lucia.rigamonti@polimi.it)