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# SUSTAINABILITY AND INTEGRATION BETWEEN MINERAL RESOURCES AND C&DW MANAGEMENT: OVERVIEW OF KEY ISSUES TOWARDS A RESOURCE-EFFICIENT EUROPE

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## Abstract

Sustainability and integration are becoming keywords in many European Union policies, including ones that are directly or indirectly related to mineral resources and waste management. Moreover, life cycle thinking (LCT) is core to many of these policies. The European Commission has issued the Communications "A resource efficient Europe" and "Roadmap to a Resource Efficient Europe", the stated goal of which is to reconsider the whole life cycle of resource use so as to make the European Union a "circular economy", one based on recycling and the use of waste as a resource. Construction and Demolition Waste (C&DW) is a possible source of unconventional aggregates, which are recognised as essential and valuable resources for the economic and social development of modern societies. The objective of this paper is to give an overview on some key issues relevant to the integration between mineral resources and C&DW management, in urban areas, towards a more resource-efficient Europe. The paper starts from a definition of Sustainable Supply Mix (SSM) of aggregates, i.e. a selected blend of natural aggregates, quarry by-products and recycled waste that minimises total negative impacts and maximises overall benefits to society. Then it turns on available technologies for C&DW recycling and technical quality requirement of recycled aggregates. Finally, it focuses on assessment tools and metrics that are currently used to understand and enhance eco-efficiency.

*Key words:* construction and demolition waste, life cycle thinking, resource-efficiency, recycling, sustainability

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