

## **Application of the EU Commission Waste Management Methodology Level(s) to a Construction and a Demolition in North-West Romania.**

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**Abstract :** Construction and demolition waste management is a timely topic, due to the urgency of its transition to sustainability. This sector is responsible for over a third of the waste generated in the E.U., while the legislation requires a proportion of at least 70% preparation for reuse and recycle, excluding backfilling. To this end, the E.U. Commission has provided the Level(s) methodology, allowing for the standardized planning and reporting of waste quantities across all levels of the construction process, from the architecture, to the demolition, from the estimation stage, to the actual measurements at the end of the operations. We applied Level(s) for the first time to the Romanian context, a developing E.U. country in which illegal dumping of construction waste in nature and landfills, are still common practice. We performed the desk study of the buildings' documents, followed by field studies of the sites, and finally the insertion and calculation of statistical data of the construction and demolition waste. We learned that Romania is far from the E.U. average in terms of the initial estimations of waste, with some numbers being higher, others lower, and that the price of evacuation to landfills is significantly lower in the developing country, a possible barrier to adopting the new regulations. Finally, we found that concrete is the predominant type waste, in terms of quantity as well as cost of disposal. Further directions of research are provided, such as mapping out all of the alternative facilities in the region and the calculation of the financial costs and of the CO<sub>2</sub> footprint, for preparing and delivering waste sustainably, for a more sound and locally adapted model of waste management.

**Keywords :** construction, waste, management, levels, EU

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