



RECOMMENDATIONS FOR RECYCLING

Activity 3.3 - Recycling

DELIVERABLE SUMMARY	
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DISCLAIMER

The present report was prepared in the framework of the project SARMa - Sustainable Aggregates Resource Management, which is co-financed by the EU within the South East Europe Transnational Cooperation Programme.

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Recommendations

Recycling activities covered in the SARMa project are extremely heterogeneous, varying from processing of mining waste to treatment of C&DW, excavated soils/rock from civil works and industrial waste. It is therefore difficult to draw general recommendations. Nevertheless, some preliminary recommendations that might be used as background for the final outputs of the SARMa project are listed below.

- In order to put into practise the EU strategies, a strong synergy between mining, traditional mineral processing and recycling has to be promoted. To this aim, it is important to consider that mineral dressing principles are the same for both natural and for recycled/manufactured aggregates. Moreover, the equipment employed in the beneficiation of primary mineral materials can be successfully adapted for recycling.
- Because natural aggregates producers own the technical know-how on natural aggregates processing, they can usefully apply it in recycling of aggregates. Similarly, natural aggregates producers hold knowledge on market issues that might be exploited in order to boost demand for recycled aggregates.
- Conventional natural aggregates and aggregates from unconventional sources (recycling) should not be considered competitors, but rather their joint utilisation is strategic to SSM.
- It is not always necessary to develop new technologies for recycling; rather innovation in recycling can be regarded as extension and adaptation of already available and well-accepted technologies.
- Cooperation between mining and recycling has to be encouraged to maximise economic and environmental benefits.
- Where possible, recycling should be an evolution of traditional extractive or mining activities. For example, recycling plants should be located in exhausted quarries or in the abandoned part of active quarries.
- Recycled/manufactured aggregates can replace natural aggregates in applications such as road construction and concrete production, always with respect to the required quality standards.
- It is advisable to shift the focus from the origin of aggregates (natural, recycled or manufactured) to the technical quality of the aggregate itself, as foreseen by the 80/106/EEC Directive on construction products. This Directive requires the respect of technical specifications imposed by the CE marking harmonised standards (for example: EN 12620 aggregates for concrete; EN 13242 aggregates for road construction; etc.), without consideration of the raw materials' sources.

- CE marking is mandatory for aggregates. This represents a very important tool for removing obstacles to the use of recycled/manufactured aggregates for several end-uses and it's an incentive for producing high quality aggregates.
- To avoid decay of end-products technical performance, high-grade recycled aggregates must be produced using advanced technologies. The aim of these technologies is the production of recycled materials with homogeneous characteristics and with physical-mechanical characteristics comparable with those of natural aggregates. Unwanted components, that can adversely affect the grade of recycled aggregate, must be removed.
- Life Cycle Assessment (LCA) can be used to enhance environmental efficiency of aggregates quarrying, as well as recycling, and help understanding the role of natural and recycled aggregates in the SSM.