

Introduction

AllBack2Pave is a 2 year international project sponsored by the CEDR Transnational Road Research Programme. The goal of this project is to develop a best practice for 100% recycling of asphalt pavements into surface courses by using Warm-Mix technologies. This is to meet global desire for a society in which construction materials are completely recycled in its own cycle. Nowadays the majority of European roads are paved with asphalt material. As a consequence *AllBack2Pave* focuses on the dismantling and end of life strategies for asphalt pavements.

Methodology

The main objectives of AllBack2Pave are the following:

- Bring the private sector, asphalt producers, chemical additives producers, waste material industry and Universities together to realize the mentioned goal.
- Identify the minimum material characterization requirements needed to create asphalt mixtures with high percentage of RA that does not hinder pavement durability.
- Develop an end-user manual to support road industry and road owners in the production and design of asphalt pavements with high percentage of RA.
- Determine the environmental impact (LCA) and economical impact (LCCA) of asphalt pavements with high percentage of RA taking into account the European level of the project and by adapting the study to normal practice in at least UK, Germany and

Italy. Studies specific to other countries will be offered, depending on data availability.

- Define a state-of-the-art on sustainability impact indicators of road pavements and to broadly assess the sustainability of asphalt pavement with high percentage of RA.

To achieve the stated objectives of *AllBack2Pave* it is necessary to collaborate closely with the private sector, asphalt producers, chemical additives producers and waste material managers, in order to define a warm-asphalt mix technology for surface course incorporating as much RA as possible. An important role plays in this context the selection of the RAs and the precise composition of the asphalt mixes to get comparable and representative asphalt mixes with nearly identical volumetric properties and incorporating the highest possible level of RA. The complete reuse of reclaimed construction materials requires a precise assessment of the volumetric and mechanical performance properties of the virgin, aged and mixed materials. An all-encompassing assessment requires also investigations on the prediction of pavement life and the sensitivity to damage as well as a broad sustainability assessment study, including a Life Cycle Assessment, a Life Cycle Cost Analysis and the definition of sustainability impact estimators for road pavements.

The required activities for an overall assessment of warm mix asphalt incorporating RA can be thematically divided into different sections. The strategy behind the work plan has been to follow the logical steps in the material flow in the process of recycling of asphalt pavements. The work break down structure is presented in Figure 1.

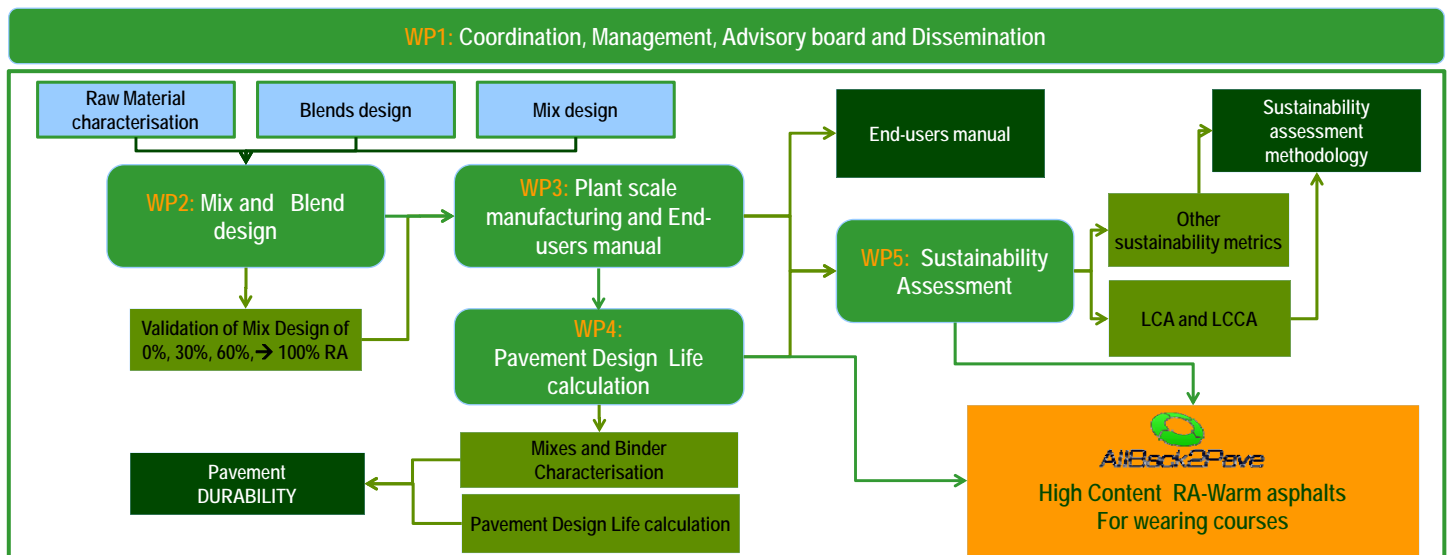


Figure 1. Work breakdown structure.

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References

1. - *AllBack2Pave* - Website: <http://allback2pave.fehrl.org/>
2. - *Re-Road* - Website: <http://re-road.fehrl.org/>
3. - *Fénix* - Website: <http://www.proyectofenix.es>