EDGAR

Evaluation and Decision process for Greener Asphalt Roads

Research project funded under the CEDR Transnational Road Research Programme

CEDR Call 2013: Energy Efficiency - Materials and Technology

CEDR Call 2013: Energy Efficiency is a Transnational Road Research Programme organised by CEDR (Conference of European Directors of Roads). The funding partners for this programme are Austria, Germany, Norway, UK, Slovenia and Netherlands.

Details	
Acronym:	EDGAR
Start:	April 2014
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Budget:	EUR318.8k
Co-ordinator:	Joelle De Visscher, BRRC, Belgium
Contact:	j.devisscher@brrc.be
Partners:	EPFL, Switzerland
	TRL, UK
	NTNU, Norway
PEB Project Manager:	Oliver Ripke, Germany, Ripke@bast.de
Website:	https://www.ntnu.edu/edgar

Project Summary:

Reduction of energy consumption and emission of CO_2 is a major challenge and responsibility for the European road construction industry. Today, there is a wide range of new materials and technologies being developed with a focus on energy efficiency. Road administrations play a major role in the advancement of new green technologies and materials, as they can favour the most sustainable solutions in their procurement criteria and procedures. In order to do this, they need to have at their disposal correct information, data, assessment tools and methodologies to decide which solutions are the most sustainable.

The potential to reduce energy consumption is particularly large for asphalt roads, as 80 % of the European road network is paved with asphalt. EDGAR ("Evaluation and Decision process for Greener Asphalt Roads") therefore focuses on the sustainability of the hereafter called "green bituminous mixtures" in which new materials and technologies are applied for the purpose of energy and CO2-reduction. Carbon foot printing is being assessed in a complete life cycle perspective including recyclability, with emphasis on high quality and performance. More specifically, the project aims to:

• Select appropriate sustainability criteria/rules;
• Collect available data on all sustainability aspects for new materials and technologies and "green bituminous mixtures", and summarize it in a summary report;
• Propose a refined, quick and qualitative classification system for the assessment of the recyclability of the "green asphalt" when it will have reached the end-of-life;
• Select the best tools for the quantitative evaluation of sustainability;
• Provide a methodology for assessing any emerging material or technology and to determine its overall sustainability, utilising these appropriate tools, considering also the durability of the bituminous mixtures.
• Demonstrate this methodology for a number of selected test cases.

The work is organised in five work packages:

WP1 "Review of energy efficient materials and technologies and classification system for recyclability" will select the new materials/technologies and the assessment criteria, will summarize the information and data for the assessment of the sustainability of "green bituminous mixtures" in a report and will propose a classification system for a quick, qualitative assessment of their recyclability at the end-of-life.

WP2 "Methodology for the assessment of sustainability" will establish rules, select tools and provide methodologies that can be used to provide an evidence base with which to make an informed in-depth sustainability assessment of new materials/technologies.

WP3 "Demonstration of the methodology to assess sustainability" consists in the demonstration of the methodology with the calculation of some representative cases. This demonstration will also serve as a practical guideline and put an emphasis on the key elements to be considered when applying the methodology to new materials/technologies.

WP4 "Dissemination activities", the objectives of which are to disseminate the results to road administrations and other stakeholders. The communication and interaction with an Advisory Group is crucial and will ensure that the work done responds to the expectations of national road administrations.

WP5 "Management activities" is intended to manage the project, making sure that the work plan is respected and that deliverables are in time and of good quality.

The project methodology is to make optimum use of data and information already available in the context of sustainability and all its aspects and to translate this in practical outcomes.