

Sponsors

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Energy Efficiency: Materials and Technologies

and funded by the following countries:

- * Germany
- * Norway
- * United Kingdom
- * Austria
- * Slovenia
- * The Netherlands

Partners

The project is carried out by four research organisations:

- * Belgian Road Research Centre (BRRC)
- * École Polytechnique Fédérale de Lausanne (EPFL)
- * Transport Research Laboratory (TRL)
- * Norwegian University of Science and Technology (NTNU)

Schedule

16 April 2014
Project kick-off meeting
TRA 2014

January 2015
WP 1 Completed

August 2015
WP 2 Completed

February 2016
WP 3 Completed

15 April 2016
Planned end date

April-May 2016
Workshop/presentation of results

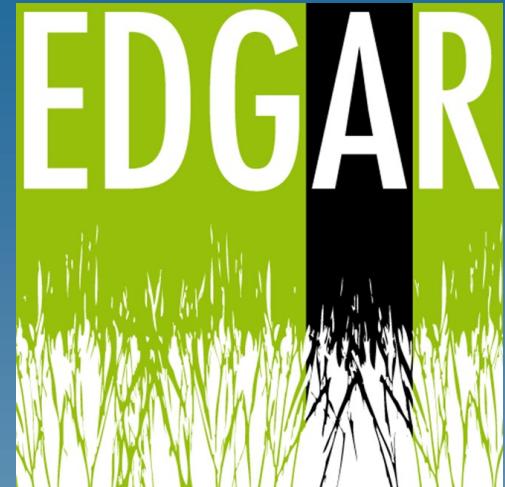
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Evaluation and Decision
process for Greener Asphalt
Roads



NTNU – Trondheim
Norwegian University of
Science and Technology



Background

Reduction of energy consumption and emission of CO₂ 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 innovative technologies offer the most sustainable solutions.

Main aims for the project

- Select appropriate sustainability criteria/rules;
- Collect available data on all sustainability aspects for new materials and technologies and “green bituminous mixtures”, and synthesize 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, utilizing these appropriate tools, considering also the durability of the bituminous mixtures.
- Demonstrate this methodology for a number of selected test cases.

Work Packages

WP1 (BRRC)

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

WP2 (TRL)

“Methodology for the assessment of sustainability” will enable to 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 (EPFL)

“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.

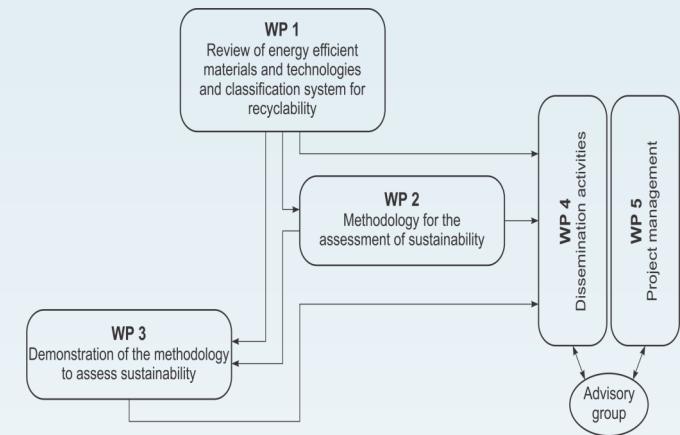
WP4 (NTNU)

“Dissemination activities”

WP5 (BRRC)

“Management activities”

Project organisation



The project makes optimum use of data and information already available in the context of sustainability and all its aspects, to retrieve a maximum of knowledge from research work done in related projects and to translate these in practical outcomes such as a summary report, guidelines, a quick classification system, appropriate evaluations tools and assessment methodologies for the evaluation of the sustainability of energy efficient bituminous mixtures.

“If you run out of ideas, follow the road; you'll get there”

- Edgar Allan Poe