

## POSITION PAPER

# GREEN PUBLIC PROCUREMENT FOR ROAD CONSTRUCTION

**EUPAVE supports and is actively participating in the revision of the GPP criteria for road construction. A correct evaluation can only be done through a complete life-cycle assessment including the use and operational phase of the pavement's service life. "Design-Build-Operate" is the best procurement method in order to achieve the best performing solutions on the long term. The technique of "Alternate Bidding" can encourage road authorities to look at different equivalent available options.**

The basic concept of GPP relies on having clear, verifiable, justifiable and ambitious environmental criteria for products and services, based on a life-cycle approach and scientific evidence base.<sup>1</sup>

The European Commission's DG Environment has decided to revise the GPP criteria for a number of product groups, amongst which those for road construction. JRC-IPTS<sup>2</sup> is leading the ongoing revision work and assists DG ENV in their policy making process. EUPAVE is one of the industrial stakeholders involved in the study and wishes to draw attention to the following viewpoints.

### ■ Holistic approach

- Achieving sustainable consumption and production requires the consideration and evaluation of all relevant environmental impacts simultaneously. This can only be ensured by the more complete Life Cycle Assessment. This is in line with JRC's statements – see document in [http://www.envirocentre.ie/includes/documents/Carbon\\_Footprint-what\\_it\\_is\\_and\\_how\\_to\\_measure\\_it-JRC\\_IES-Feb09-b\[1\].pdf](http://www.envirocentre.ie/includes/documents/Carbon_Footprint-what_it_is_and_how_to_measure_it-JRC_IES-Feb09-b[1].pdf)
- Regarding the enormous potential impact of the operational use and end-of-life phase, these cannot be ignored

in such an LCA. EUPAVE is indeed convinced that an LCA, including the use/operational phase (fuel consumption of the traffic, maintenance activities, impact of albedo on road lighting), is the best available assessment method for projects above a certain scale. All environmental criteria should be included as far as possible in this LCA. Continued research should provide reliable data to make these evaluations possible.

- Fuel consumption of the vehicles in the use phase is related to rolling resistance due to surface texture, roughness and also deflection of the pavement. Thanks to its higher rigidity, a concrete pavement enables lower fuel consumption of heavy vehicles and subsequent CO<sub>2</sub> reduction. Even with conservative figures for the saving in fuel, changing one kilometre of heavily loaded traffic lane from asphalt to concrete leads to a reduction in CO<sub>2</sub> emission of about 9 tons every year.<sup>3</sup>
- Street lighting should be included in the scope of Road Construction. Even though the products may be covered by other GPP criteria, the biggest impact remains in the operational phase. The type of pavement, through its light reflecting capacity, can have a significant impact on costs and energy of street lighting.

<sup>1</sup> [http://ec.europa.eu/environment/gpp/gpp\\_criteria\\_en.htm](http://ec.europa.eu/environment/gpp/gpp_criteria_en.htm)

<sup>2</sup> Joint Research Centre – Institute for Prospective Technological Studies

<sup>3</sup> EUPAVE publication "Concrete roads : a smart and sustainable choice", p. 8





- Tunnels and structures should be considered within the scope of GPP for road construction. Due to their economic impact they often represent a high percentage of tendering budget. If they are excluded, green public procurement would lose its spirit.

- Although not in the procurement process, land use and fragmentation of territory should be taken into account during planning and design stages, so that the procurement process is conditioned by these decisions.

#### ■ Alternate bidding

- GPP should strongly encourage road administrations to compare alternative types of pavement structure and materials considering both asphalt and concrete and to select the type of pavement based on objective criteria in order to maximize economic, societal and environmental performance of the road infrastructure over its entire life cycle. The comparison and selection can be done during the design but ideally also during the procurement stage through use of alternate bid or Design-Build-Operate (DBO) models in the case of sizeable road projects. A “DBO” is the best solution if the period for operation is long enough (30 to 40 years). In that case, the contractor is interested in long lasting and highly performing solutions which require a minimum of maintenance. All this will result in the best solution in terms of economy and environment. The tendering formula of “alternative bid” can provide a solution to make the best choice between available pavement options corresponding to equivalent designs.

#### ■ Life cycle costing

- Rather than awarding a contract based on the lowest price, the most economically advantageous tender should be selected, as described in the EU Procurement rules. Costs should be calculated on the basis of the whole life-cycle and not solely on the initial price. A “Life-Cycle Cost Analysis” or LCCA is a technique that helps assess the long term return of alternative investment options.

#### ■ Noise

- Environmental noise requirements should be based upon the environmental conditions: presence of adjacent houses, schools, hospitals - distance to the road – traffic volume. A low-noise pavement is one of the available solutions, either as a unique measure or in combination with other noise abating measures. Basically, these requirements already exist in the Environmental Noise Directive and the associated action plans. If a low noise pavement is envisaged, its durability and the durability of its noise performance should be carefully considered.

Finally, since service life is key to sustainability, it is essential that the overall performance -with respect to the environment, cost and society- of a chosen solution is not compromised by prioritising apparent short-term gains. A sustainable approach requires thinking on the long term.

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