

## POSITION PAPER

# CONCRETE ROADS – AN INTEGRAL PART OF THE CIRCULAR ECONOMY

Resource efficiency and the circular economy are high on the EU political agenda at the moment. Various pieces of legislation and initiatives under the umbrella of the European Commission's "Circular Economy Package" aim to move Europe towards a more efficient, less wasteful economy.

This includes initiatives to encourage greater recovery and recycling of construction and demolition waste. Often an emphasis is put on buildings, but roads and infrastructure have a contribution to make too.

### ■ Resource-efficient concrete roads

Roads built using cement and concrete solutions embody circular economy principles. Taking the European Commission's own waste hierarchy (Prevention, Reuse, Recycling, Recovery, Disposal), it is clear that concrete practices in general, and pavements in particular, lie in the upper – i.e. more "virtuous" – levels of this hierarchy.

Concrete pavements have always been appreciated for their durability and low maintenance – and it's not hard to grasp how this translates into sustainability benefits. The advantages of concrete in pavements span the three pillars of sustainability: social, economic and environmental.

Durability means prevention of waste – the most resource efficient road is one you resurface once every 30 or 40 years, rather than every 10 years.

As far as reuse and recycling are concerned, both reuse of aggregates from demolition concrete, and soil stabilisation & in-situ recycling (see boxes) are excellent examples of

#### **Soil stabilisation & in-situ recycling**

In road building, the underlying ground needs to be levelled and made solid enough to support the road. Traditionally, soils are excavated and new material is brought in to provide a solid base and to fill hollows. A more resource efficient method is the use of a hydraulic binder to stabilise the soil already on site. This avoids both the transportation of material to and from the site (and consequent transport emissions), as well as unnecessary extraction and landfilling. The very essence of resource efficiency!

circular economy – even though they don't follow a traditional product-to-product closed recycling loop. Indeed, often the most sustainable way to reuse aggregates from demolition concrete from buildings is in road base. This is a good example of open loop recycling – material from one application is reused in another, thus reducing the extraction of virgin material. This demonstrates the need for policy on circular economy to be open enough to all types of reuse and recycling, where these have an environmental (as well as social and economic) benefit.

Both technologies mentioned are technically not difficult and are already in use, but smartly written circular economy policies will help encourage their uptake.

It is clear that a shift to a more circular economy – when done in the right way – has benefits for the economy and society as well as the environment.

#### **Concrete recycling**

Concrete is 100% recyclable. Concrete having reached the end of its life can be crushed to provide aggregates for use in new concrete, or in unbound applications such as road base. Aggregates coming from demolition concrete from buildings are often used as road base, thus supplying aggregates locally and avoiding the extra processing that might be needed to recycle this material into new concrete.

### ■ Policy requests

Given these considerations, EUPAVE wishes to put forward the following policy suggestions:

1. Policy should recognise the benefits of both open and closed loop recycling
2. Public procurement must take a long term view and avoid focusing on initial costs or impacts: durability contributes to resource efficiency
3. Recycling is one of the means to greater sustainability, not an end in itself. All measures leading to greater resource efficiency should be encouraged.