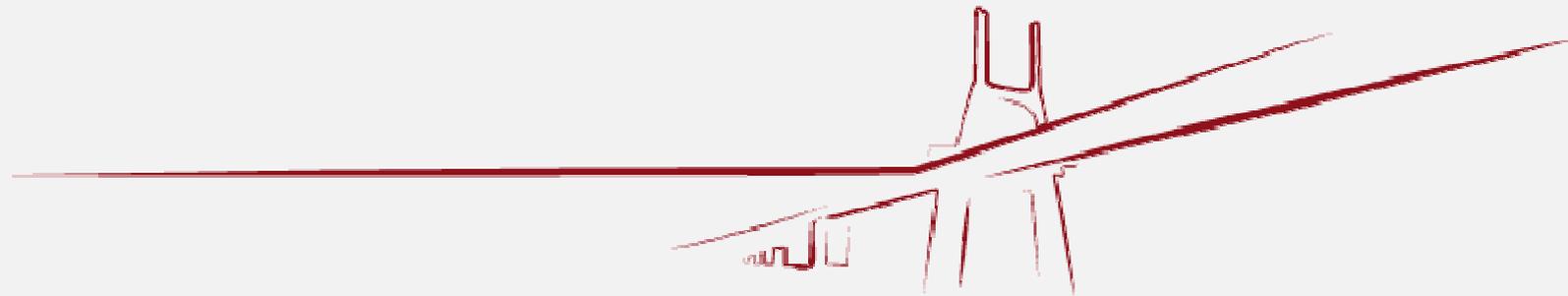




CIRCULAR ECONOMY SYNERGIES IN CEMENT PRODUCTION FOR A SUSTAINABLE FUTURE

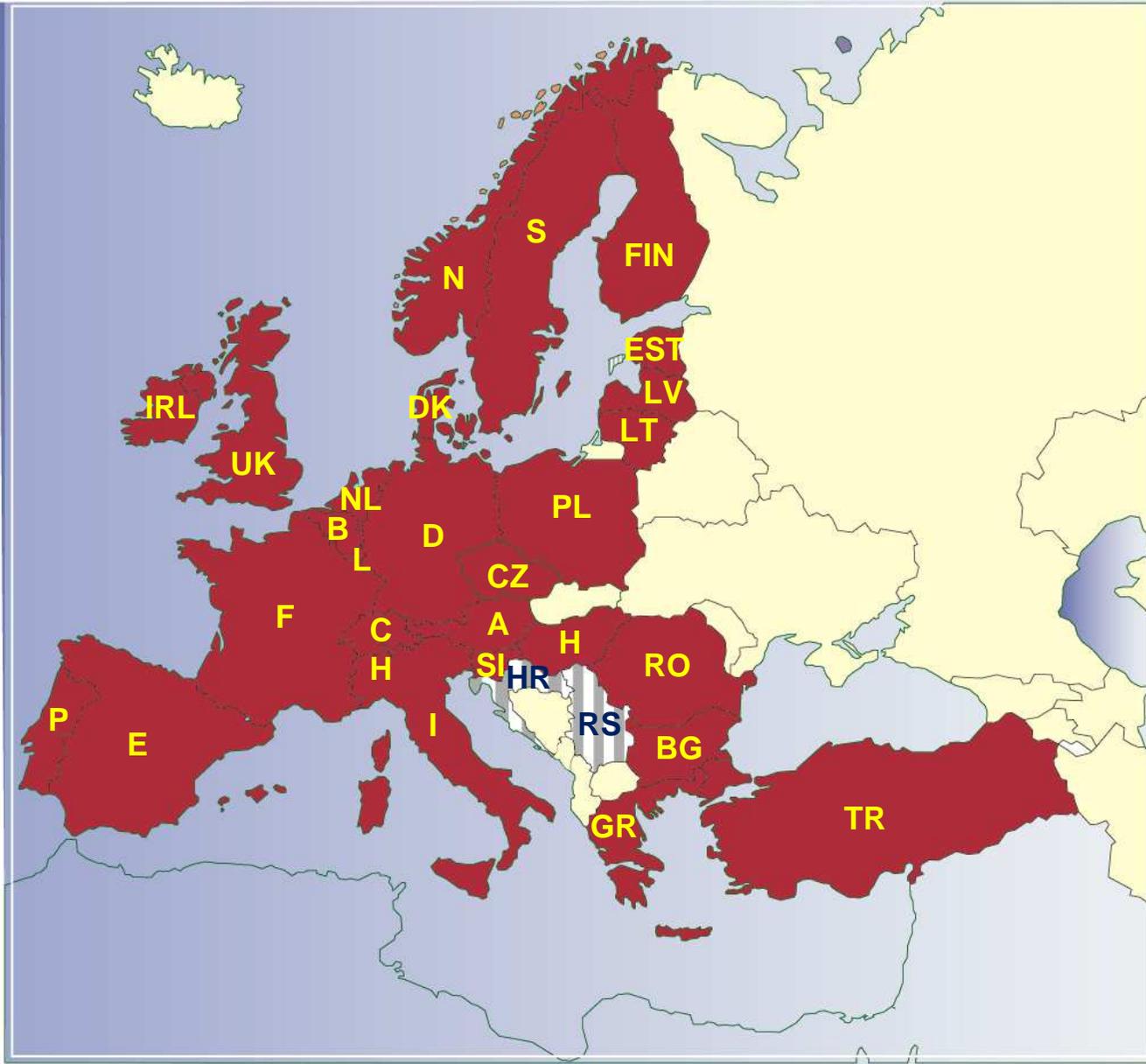


**POLISH CEMENT ASSOCIATION SEMINAR
“CO-PROCESSING OF ALTERNATIVE FUELS IN CEMENT PLANTS”**

Krakow, 07 October 2015

Claude Loréa, CEMBUREAU Deputy Chief Executive

CEMBUREAU



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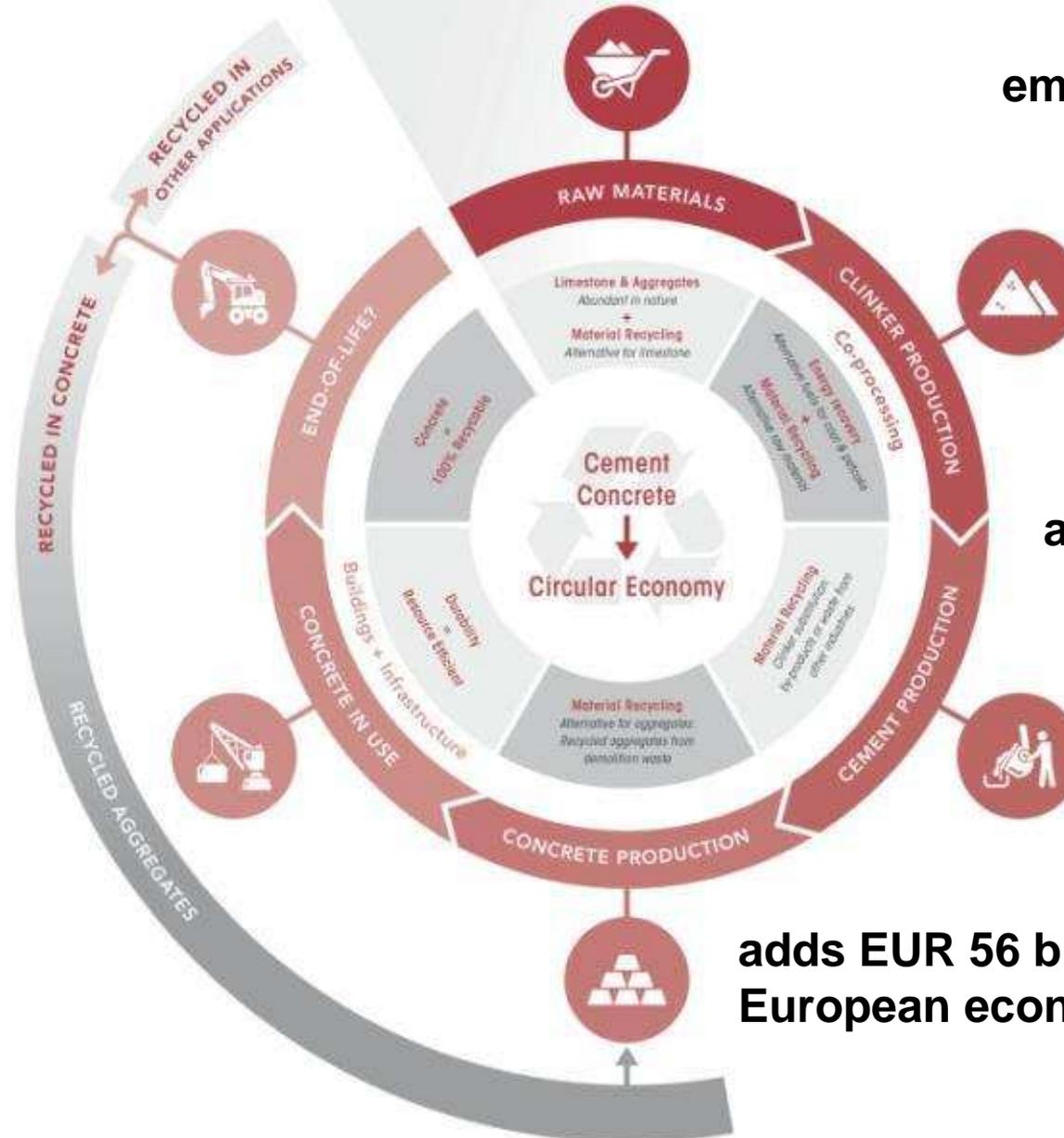


The cement and concrete industry is the backbone of construction in Europe

employs 545,000 people

accounts for 10% of GDP

adds EUR 56 bn to the European economy



RAW MATERIALS



In 2012, around 6 Mt of raw materials were saved thanks to the use of alternative raw materials



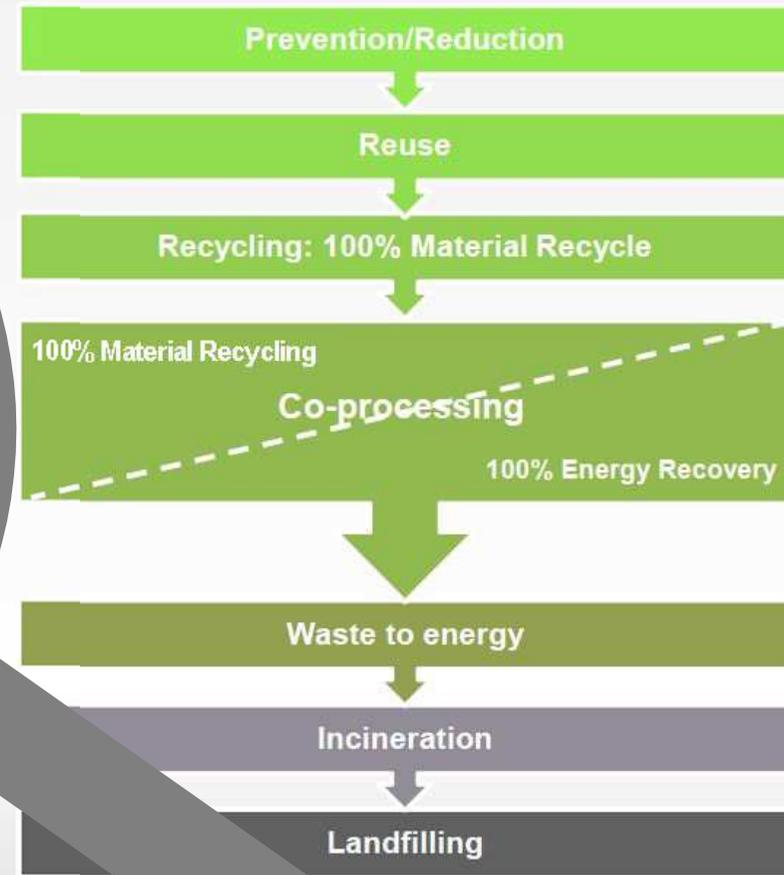
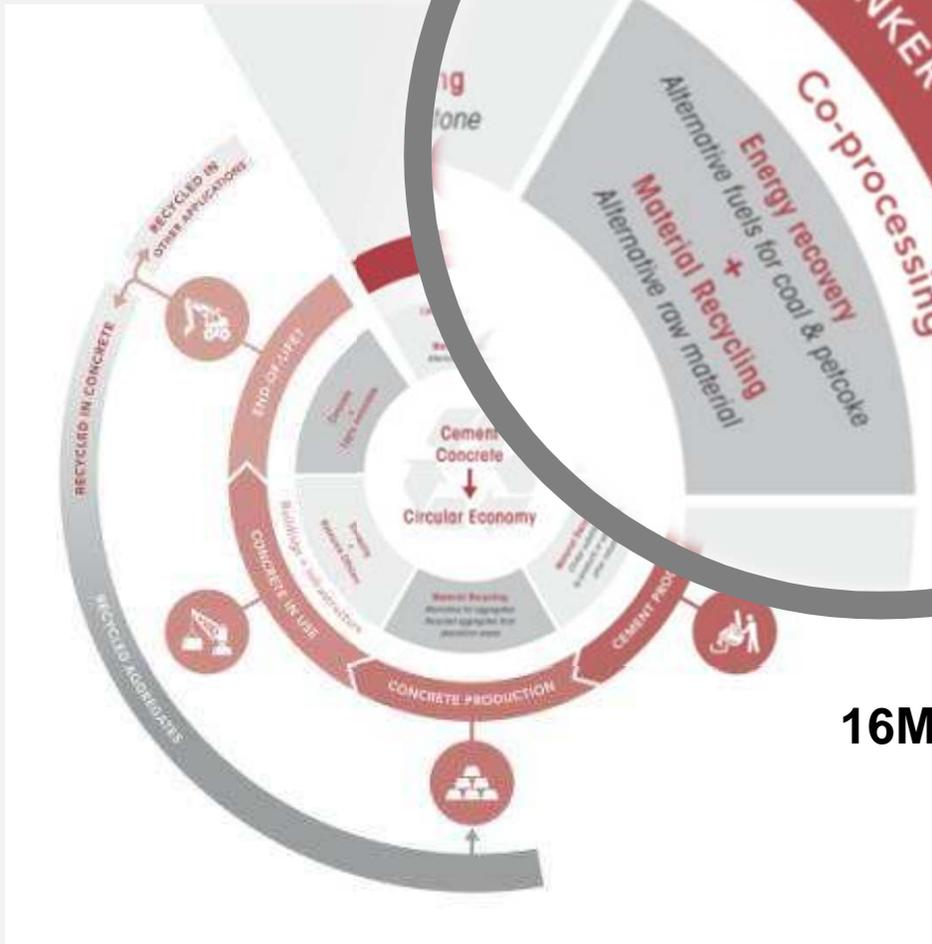
CLINKER PRODUCTION



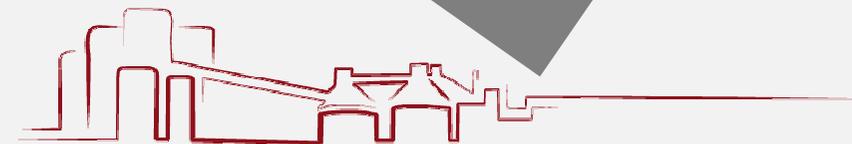


'CO-PROCESSING' = ENERGY RECOVERY + MATERIAL RECYCLING

Alternative fuels = 36% of cement industry fuel mix
⇒ 7Mt fossil fuel saved (2012)



16Mt CO₂ emissions reduced





CEMENT PRODUCTION





Clinker can be blended with a range of alternative materials, including pozzolans, finely ground limestone and waste materials or industrial by-products

A global clinker-to-cement ratio of 78% in 2006 meant that about 550-600 million tonnes of constituents other than clinker were used





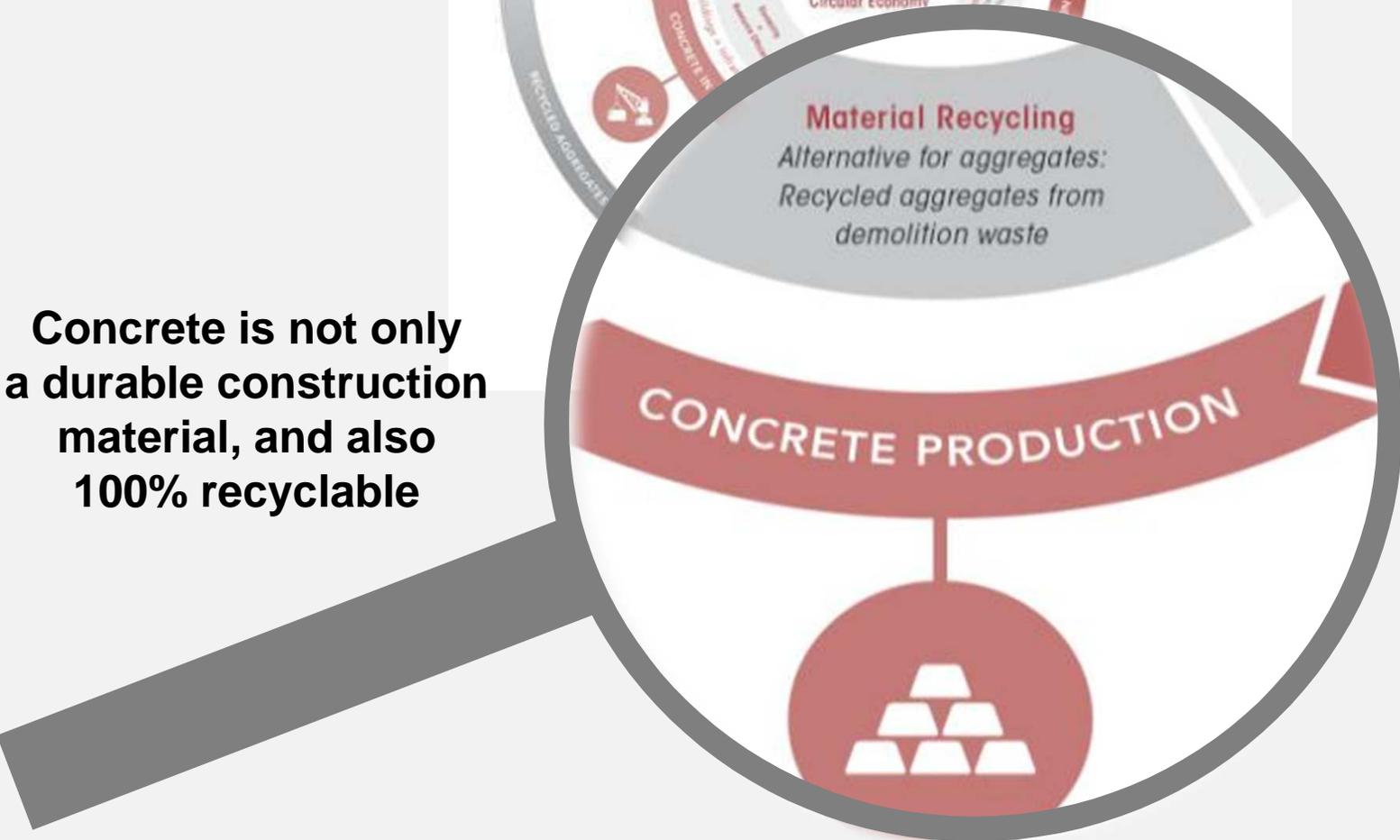
CONCRETE PRODUCTION





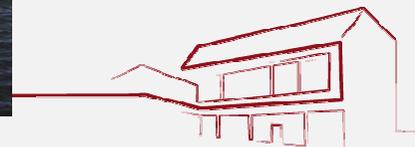
The vast majority of cement is used as a binder in concrete

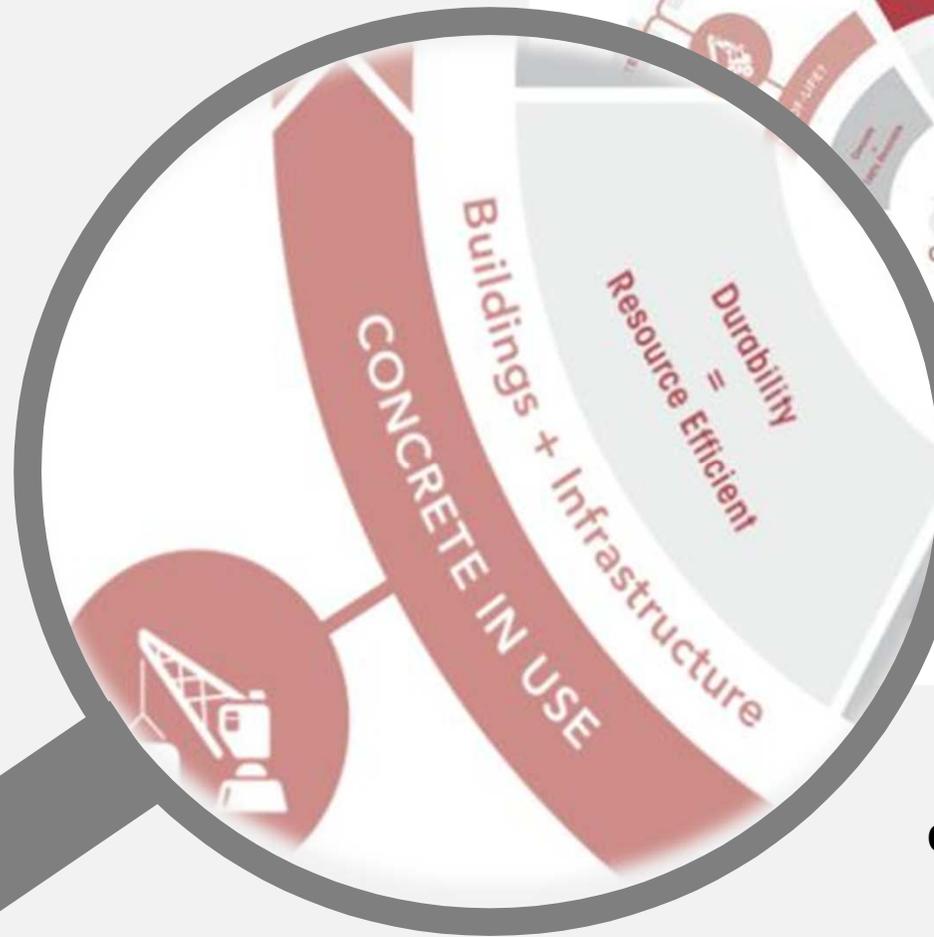
Concrete is not only a durable construction material, and also 100% recyclable





CONCRETE IN USE



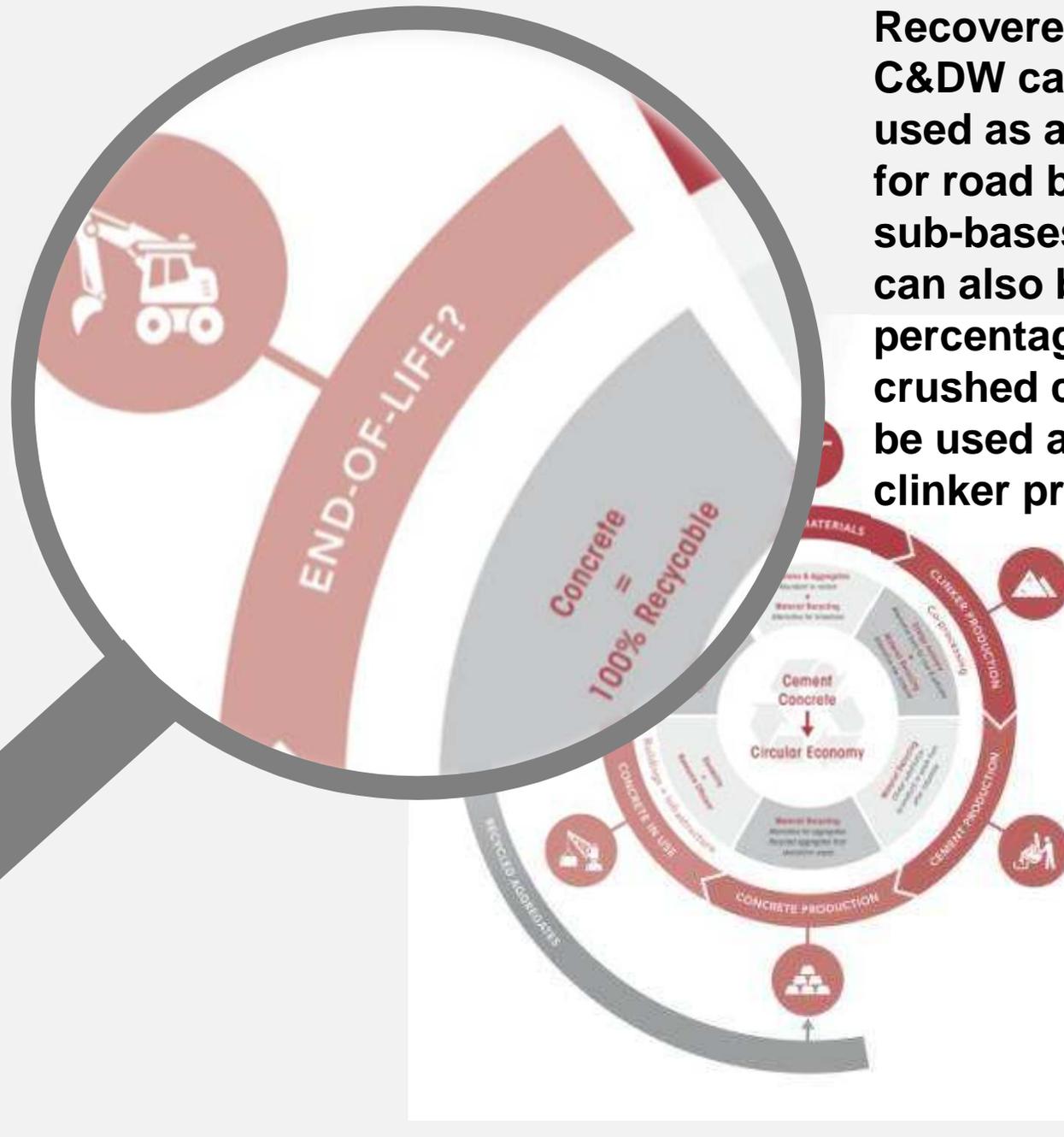


Its durability makes concrete a key material for sustainable construction



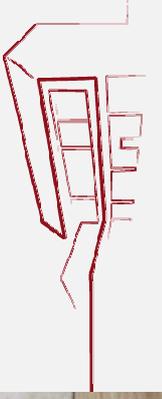
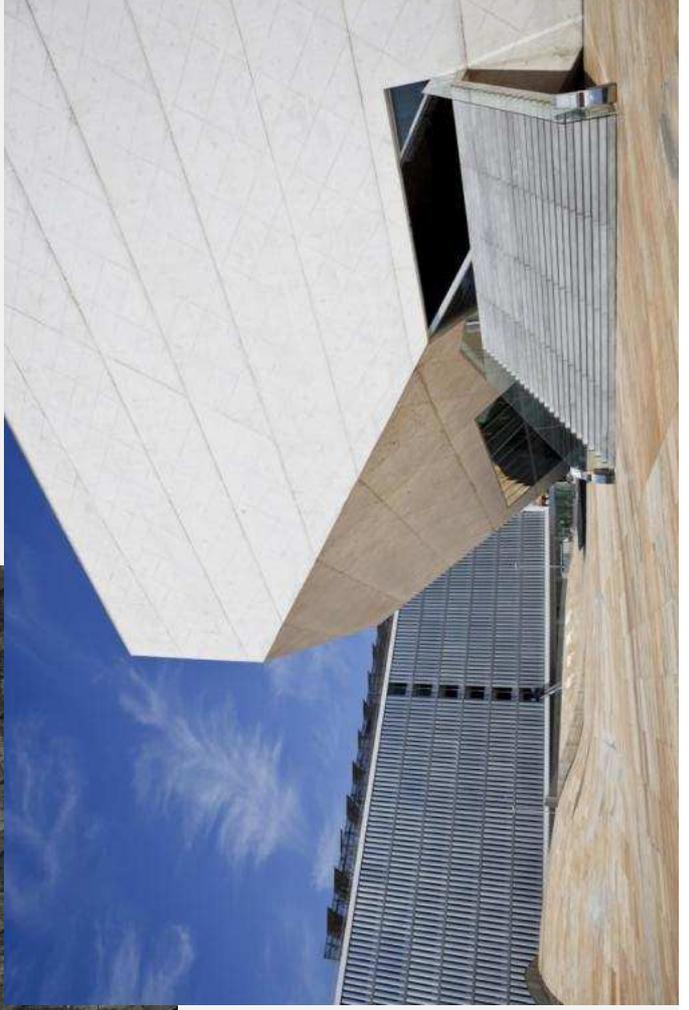
END-OF-LIFE





Recovered concrete from C&DW can be crushed and used as aggregate, mainly for road bases and sub-bases, and new concrete can also be made using a percentage of recovered crushed concrete. It can also be used as raw material for clinker production.

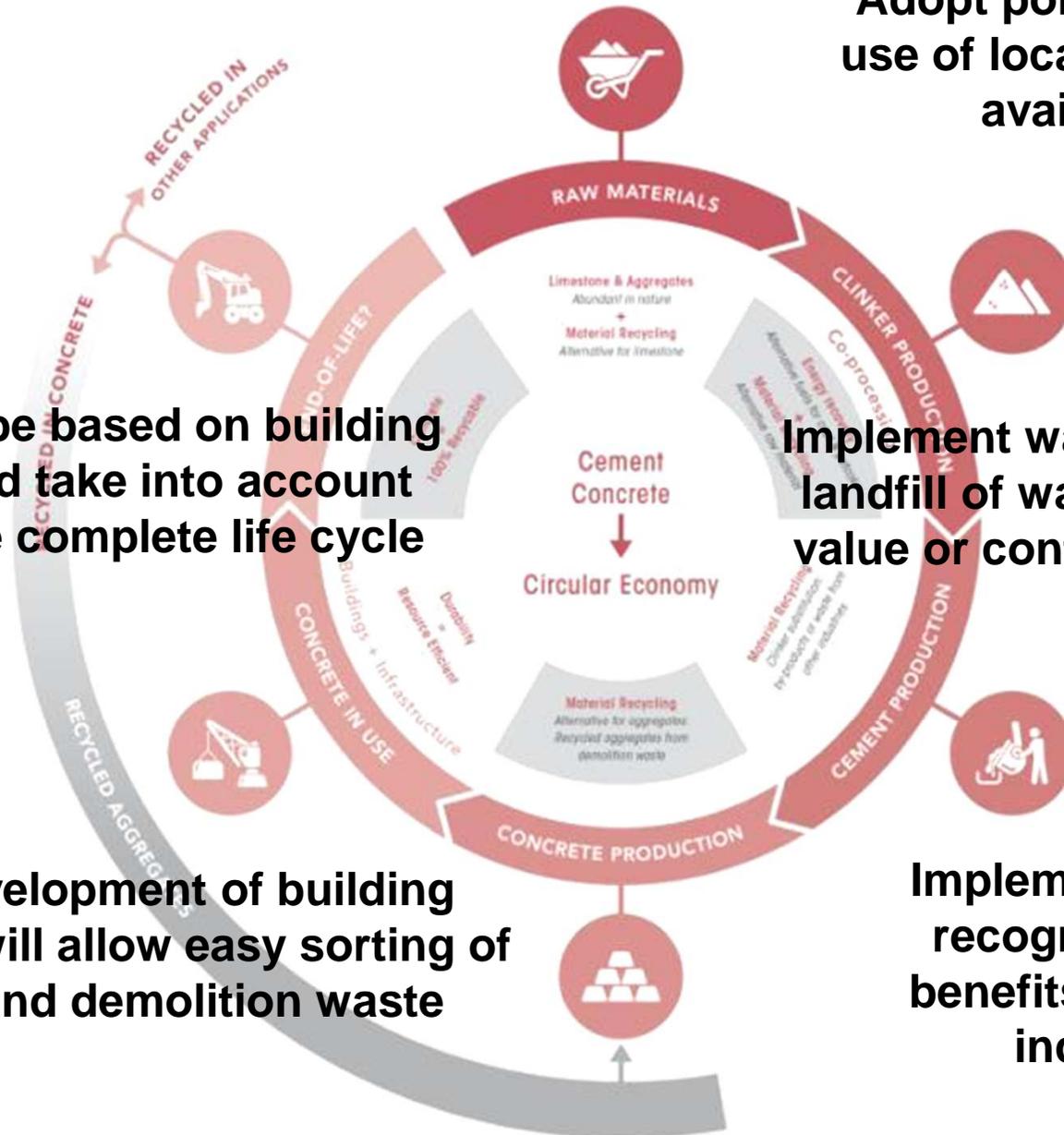




POLICY RECOMMENDATIONS

Policies need to be based on building performance and take into account impacts over the complete life cycle

Encourage development of building techniques that will allow easy sorting of construction and demolition waste



Adopt policies that reward the use of local sources and widely available materials

Implement waste legislation to avoid landfill of waste that has a calorific value or contains other recoverable resources

Implement a waste policy that recognises and rewards the benefits of co-processing and industrial symbiosis



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