Concrete waste reduction of 50%

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During decommissioning quite a volume of concrete waste is produced. The degree of activation of the waste can range from clearly activated material to slightly activated or contaminated concrete. The degree of activation influences the applicable waste management processes that can be applied.
The subsequent waste management processes can be identified for concrete waste are; disposal, segregation, re-use, conditional release and release. With each of these steps, the footprint of radioactive decommissioning waste is reduced.
Future developments for concrete waste reduction can be achieved by applying smart materials in new build facilities (i.e. fast decaying materials).
NRG (Nuclear Research and consultancy Group) has investigated distinctive waste management processes to reduce the foot-print of concrete waste streams resulting from decommissioning. We have investigated which processes can be applied in the Netherlands, both under current legislation and with small changes in legislation.

We have also investigated the separation process in more detail. Pilot tests with a newly patented process have been started in 2015. We expect that our separation methods will reduce the foot-print reduction of concrete waste by approximately 50% due to release or re-use in the nuclear sector or in conventional industry.

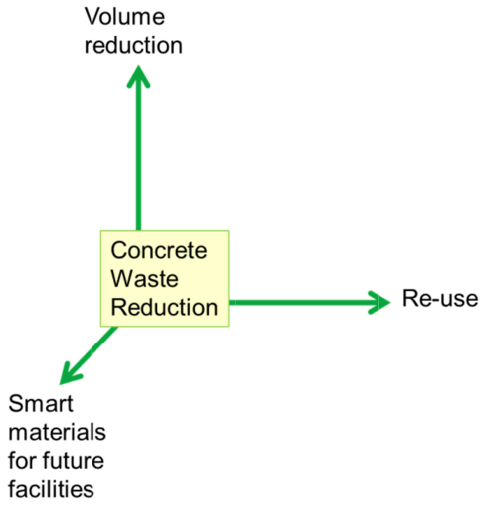

Figure 1: *developments in foot-print reduction of concrete waste.*