

BRCW7:Proposal for information

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BRCW7: Sustainable use of natural resources

- Introduced into Construction Products Regulation
- Additional to the six existing **B**asic **R**equirements for **C**onstruction **W**orks
- Product information required when placed on European market and there is a notified regulation

BRCW7: Sustainable use of natural resources

'The construction works must be designed, built and demolished in such a way that the use of natural resources is sustained and in particular ensure the following:

(a) Reuse or recyclability of the construction works, their materials and parts after demolition;

(b) Durability of the construction works;

(c) Use of environmentally compatible raw and secondary materials in the construction works.'

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Use of natural resource is sustained

- **This means the availability of a resource to future generations**
- **An indicator that includes both the quantity and scarcity of a resource is required**
 - Total Material Requirement is unsuitable
 - Abiotic-Depletion Potential is better but it still has several shortcomings
 - Combined Resource Score is the best measure

Reuse and recyclability

- **Already a high level of recycling with high value products, e.g. metals**
- **Bulk of construction and demolition waste have competition from relatively low cost primary materials – market issue**
- **Using recycled materials does not always have the lowest environmental impact**

Durability of construction works

- **EN 1990 defines minimum design working lives for various types of structures**
- **LCA should be based on these lives except where the client has specified a longer life**
- **This may involve replacement of certain building components and the design should anticipate such replacement**

Environmentally compatible

- **Exact intent of ‘*Use of environmentally compatible raw and secondary materials in the construction works.*’ is not clear**
- **Our interpretation is that it means two things**
 - Does not release or emit significant levels of dangerous substances over the life-cycle
 - Use secondary materials where appropriate

Dangerous substances

- **Covered adequately by BRCW3: *Hygiene, health and the environment***
- **Revisions of mandates are being issued to report information where there are notified regulations**
- **Many sectors are likely to provide information even if there is not a notified regulation**

Combined Resource Score

- **Provides a single score for 11 EN 15804 resource indicators (water use excluded)**
- **Covers primary abiotic and biotic resources, fossil fuels, secondary and recycled materials**
- **Takes into account quantity and residual life of the resources**
- **Uses a single characterisation curve**

Residual life

- **Quantity of resource available divided by rate of use**
- **Same approach used for the abiotic depletion potential in EN 15804**
- **Applied to primary resources**
- **Use of recycled and secondary resources taken into account**

Rate of use

- Will it be a function of the increasing population?
- Will we become more resource efficient?
- Will there be alternative materials?
- Will innovation create new demands or replace existing demands?
- Will economics force changes?
- **Residual life is current best estimate**

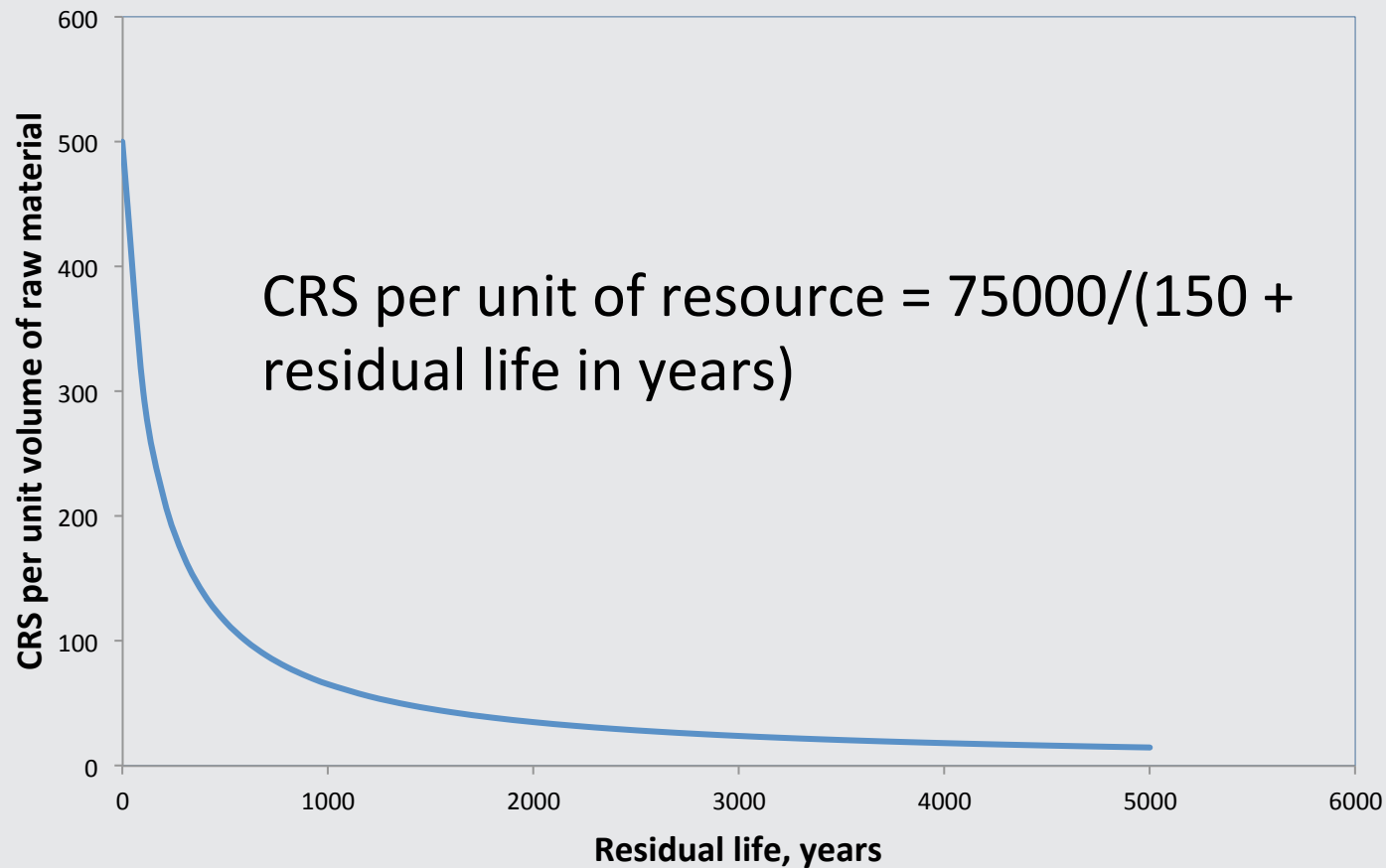
Resources in the economy

- **Secondary/recycled materials that have actually been used are taken directly into account**
- **Most of what is in the economy is not available for use**
- **Resources in the economy are only available at the end of their present working lives, e.g. when a structure is demolished**

Combined Resource Score

- **Raw material use is converted into an Combined Resource Score using a characterization model**
- **Various potential models were examined and a hyperbolic function is regarded as giving the best relationship**
 - Proportionally higher values for shorter residual lives
 - Little difference with long residual lives

Characterisation curve



Proposed lead indicator

- **Policy relevant**
- **Coherent and complete (except for land use)**
- **Uses principle accepted by CEN/TC350**
- **Includes impact of secondary materials**
- **Transparent**
- **Uses data that are available**
- **Easy to communicate**

Questions