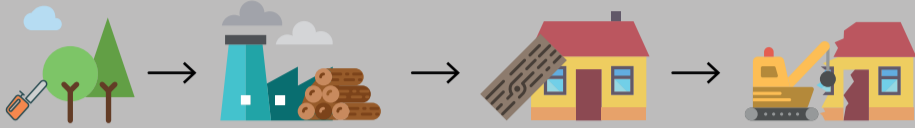


HOW TO DESIGN BUILDING MATERIALS IN A CIRCULAR MATERIAL ECONOMY

WHY Growing world population, estimated at 9 billion people with a western lifestyle in 2050. To facilitate needs 6 earths are needed. The building industry in the Netherlands is accountable for 37% of the total waste produced. 50% of the extracted materials is used by the building industry globally.

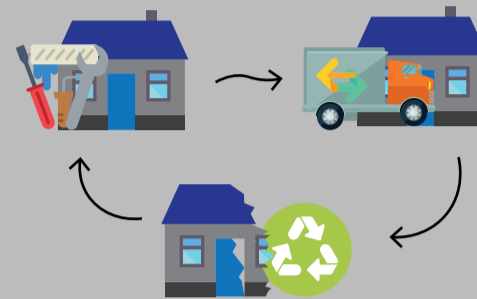
SAVES The circular materials introduces savings in different ways. The material input would be 20% compared of the current model. The volume of materials going to the landfill would be 52% of the current model. Plus the social benefits like jobs created and a cleaner environment.

FROM a linear material economy with take-make-use-dispose



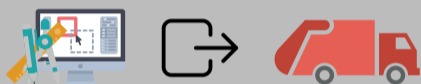
For more information about this topic go to: howtodesigninacircularmaterialeconomy.ams

TOWARDS the circular material economy with repair-reuse-recycle.



design out waste

Products are designed and optimized in a way that it can fit the cycle of disassembly and reuse.



durable and usable

Division between the consumable and durable products. Consumables are made out of biological ingredients, which can safely be returned to the biosphere. Durable products are made of materials that cannot and should be designed from start to reuse.



renewable energy

To increase resiliency and independency on resources the energy used should be renewable to nature.



power of inner circle

A taxi is used more intensively than a private car; this is the result that the replacement of goods by services increases the use-intensity. A product that last longer, can be scrapped and disassembled easily lies within the interest of the product-maker. Increasing the specifications of the design and the choice of materials which increases the life and durability.



Increases the efficiency of collection and redistribution while the quality is maintained. This will eventually extend the product longevity and therefor increase the material productivity. The design asks for easy access and separation; easy identification of components; easy verification of conditions.



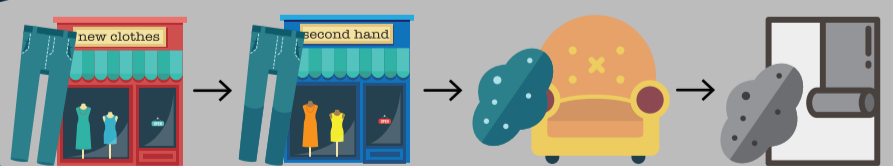
power of pure circles

power of circling longer

The added value of design and manufacturing of the product is always higher than the value of the materials it consists of. Within the proposed 'reuse - repair-recycle' of circular economy the value is respectively decreasing, but in all three cases the materials stays part of the active stock



The possibilities of reusing a certain product. For example cotton clothing, it can be used first at a second hand store; secondly, it can be used as filler of fabrics in the furniture industry; thirdly, it can be shredded and used as insulation of buildings; and at last it can safely be reintroduced to the biosphere. A form of non-destructive recycling is reuse. Within reuse the function of the product may change but the materials stay in service.



power of cascaded use

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