

CIRCULAR ECONOMY

Information provided by Steinbeis Papier GmbH

Studies by the United Nations state that given our finite resources people consume an unsustainable amount of goods. The environmental organisation WWF has launched Earth Overshoot Day to draw attention to the problem. This day, which is recalculated each year according to resource consumption, marks the date when humanity's demand for natural resources exceeds what Earth can regenerate in that year. It highlights the need for business in particular to use raw materials more efficiently. The UN estimates that if things don't change, resource consumption could double by 2060 and municipal waste could rise by 70% by 2050.

Circular economy as a solution to a global problem

The circular economy and the associated Circular Economy Act are the solution to the global waste problem. This law has created a regulatory framework in European and German law to ensure the recycling of waste and ultimately promote the conservation of natural resources and environmental protection. The idea is that after the end of their useful life, products remain in the economy as a resource to be used again and again, the aim being to improve the yield and sustainability of these resources.

Recycled paper – a prime example of longer product life cycles and resource conservation

According to the WWF, annual paper consumption per capita in Germany is about 250 kg. And Germany ranks second behind the USA on the list of the world's largest paper importers. At the same time, few countries collect as much waste paper as Germany. And that is the key factor. If you dispose of printed products properly, you harness the high-tech, value-adding potential of the circular and recycling economy. And less primary raw materials need to be used.

The Steinbeis Papier cycle model

Steinbeis Papier focuses consistently on effective closed cycle concepts that are particularly light on resources and energy. In recycled paper production, various cycles run in parallel and ultimately interlock.

- **Paper cycle:** Steinbeis Papier takes a holistic approach to paper disposal, recycling, and production. Waste paper is obtained locally wherever possible. Waste graphical papers consisting of products such as newspapers, magazines, and office waste paper are reprocessed into new graphical printing and photocopying paper. This is equivalent to upcycling. The company operates according to an established sustainability principle: use, dispose, refine, recycle. Hence the service "Circular Economy – Back to Use", which collects waste paper from businesses, ministries, and administrations and uses it to produce new paper for the very same target groups.
- **Energy cycle:** Steinbeis Energie operates a state-of-the-art power plant on site to supply the paper mill with green energy. Innovative fluidised bed technology and

combined heat and power deliver 100% of the thermal energy required in the form of steam and 50% of the electrical energy needed. Substitute fuels and small amounts of waste from production are used.

- **Water cycle:** Steinbeis Papier mainly uses closed water cycles. Only surface water from the Elbe is utilised for production – no groundwater. It is cleaned and reprocessed repeatedly during production. Once it has been used, the water is returned to the Elbe via the plant's own fully biological wastewater treatment plant.
 - **Waste material cycle:** Steinbeis Papier uses its waste materials and returns them to the cycle. For example, thickened paper fibre sludge from production helps to generate energy. The resulting ash serves as a raw material for road construction.
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Rethinking towards a circular economy

Steinbeis Papier promotes an internal and external conversation encouraging people to rethink resource conservation. The Steinbeis Papier concept of a sustainable circular economy is innovatively publicised, both visually and in terms of content. Facts and figures on product packaging, at blog.stp.de, and at shop.stp.de provide orientation and clearly show the resources saved by using Steinbeis papers.