

# Paper all the way to the moon

## How our consumption of paper is responsible for tropical rainforests being cut down

Everyone of us uses it every day. How would we learn, record information, keep our hygiene standards or communicate without it? Paper is made of cellulose, which comes from wood. Of all the trees felled globally every year, one out of five is cut down to make cellulose.<sup>1</sup> Our appetite for paper is insatiable. Because of the growing demand, tropical rainforests are being cut down to make space for the plantation of tree monocultures to produce timber. If we don't reduce our paper consumption, we will go on causing rainforests to be destroyed – with dire consequences. Rare plants and animals are becoming extinct; indigenous peoples are losing their traditional livelihood; and the climate is warming up ever faster. There are things we can do, though. We can reduce the amount of paper we use, recycle as much as possible, and find exciting ways to up-cycle paper products after we've used them!

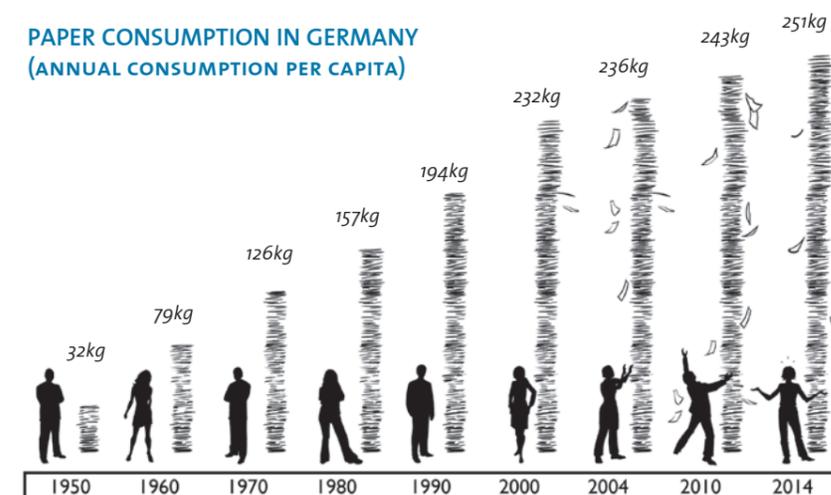


Wherever tropical rainforest is cleared for making paper, plant and animal habitats are destroyed. New timber plantations then cause even more environmental destruction because they are artificial monocultures – “green deserts”, where hardly anything else lives or grows, apart from the trees planted. A major problem is the huge amount of water, which is used, especially in the eucalyptus plantations which predominate in Brazil. Monocultures soon exhaust the soil and are more susceptible to pests, so huge quantities of fertilizer and pesticides have to be used as well.

Land, which has been used for farming is taken over by plantations to produce cellulose for paper. Therefore more rainforest has to be cleared to make new land available for farming. As the area covered by plantations grows, more and more forest is lost. And on top of all this huge amounts of water, energy, and chemicals are used in the processing of timber to produce cellulose. A lot of the chemicals then cause air, soil, and water pollution, endangering the health of local inhabitants.

Timber plantations mean not only a loss of habitat for plant and animal species, but also a loss of livelihood for indigenous peoples. Arable land and pastures disappear. And so does free access to the forest which has provided local people with food, natural remedies, firewood and a place where they perform traditional ceremonies for centuries. When concessions for timber plantations are granted, the land rights of the local population are invariably disregarded. The people who are affected may try to defend their rights, but they are then likely to be subjected to (violent) intimidation. The few new jobs tend to be for workers to clear the forest and plant new plantations. The harvesting is usually automated. On top of that transforming timber to cellulose consumes large quantities of water, energy and chemicals. A lot of the chemicals used also pose a threat for air, soil, water and the health of local inhabitants.

PAPER CONSUMPTION IN GERMANY  
(ANNUAL CONSUMPTION PER CAPITA)



Every German used up 251 kilogram of paper in 2014! That is double the amount consumed per capita 40 years ago.<sup>2</sup>



Eucalyptus plantation for cellulose production.



Our paper supply: cellulose is made from wood.

# There are alternatives

## The (re-)cycle goes round seven times



Using wastepaper instead of fresh cellulose fibres to produce paper means that we are participating in a meaningful way to protect resources, forests and our climate. Since the recycling process requires the use of less chemicals, as well as producing less waste in general – as every fibre can be used up to seven times.<sup>12</sup> However this requires a prior sorting by types. We are only using but a portion of the potential that wastepaper holds. This could change if we commit ourselves to step up the efficiency in our gathering and reuse of this resource. In addition, the use of the fibres should be organised in a cascading form: Differentiating between high quality products such as magazines and several steps down the line packaging- or toilet paper.<sup>13</sup>

## Choose recycled products!

In Germany, wastepaper is the most important raw material for making paper. 16.6 million tonnes were used in 2014.<sup>14</sup> The majority of the “raw-materials” used by the national paper production consists of waste paper – at least 71 percent<sup>15</sup> (mainly packaging). But as Germany imports paper and paper products from countries with low recycling rate, this number is dragged down to a more accurate 56 percent.<sup>16</sup>

Of the 251 kilogram of paper we each use annually, 140 kilogram are made from recycled paper. It would be technically possible to use up to 200 kilogram recycled paper, because only about 20 per cent of the used fibres<sup>17</sup> have to be replaced by virgin fibres (paper fibres become too short or too contaminated after being used a number of times). Fortunately it is easy to choose recycled products in exactly those areas where individual consumers can make a difference: hygiene products, writing paper, paper for printing and copying, school exercise books, wrapping paper, envelopes, etc..

## Higher than the moon

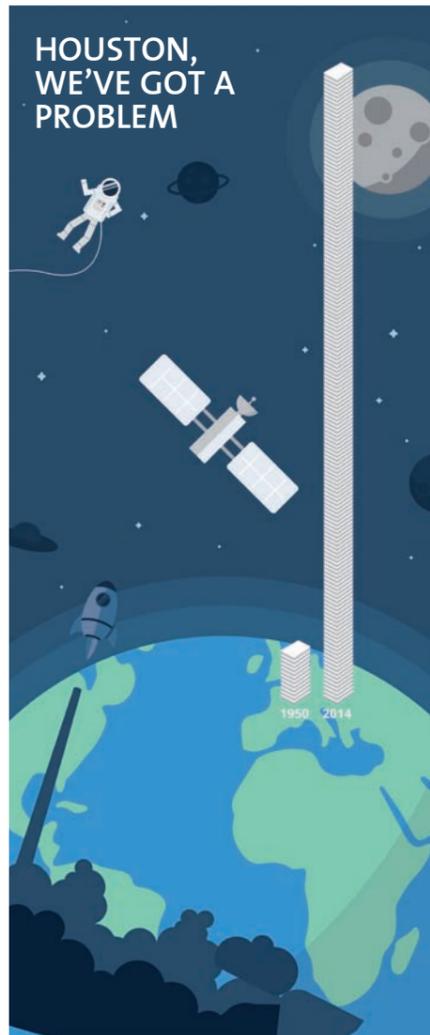
Germany was the fourth largest paper consumer in 2014, consuming a total of 20.2 million tonnes.<sup>3</sup> We soon throw out most of it: packaging, hygiene products, and all the advertising which goes into our letterboxes. In terms of per capita consumption, we're up there in second place (Luxemburg is first): 251 kilogram per person.<sup>4</sup> A pile of all the paper we consume would be 520,000 kilometre high – thats further than from here to the moon.

## A surplus here and a shortage there.

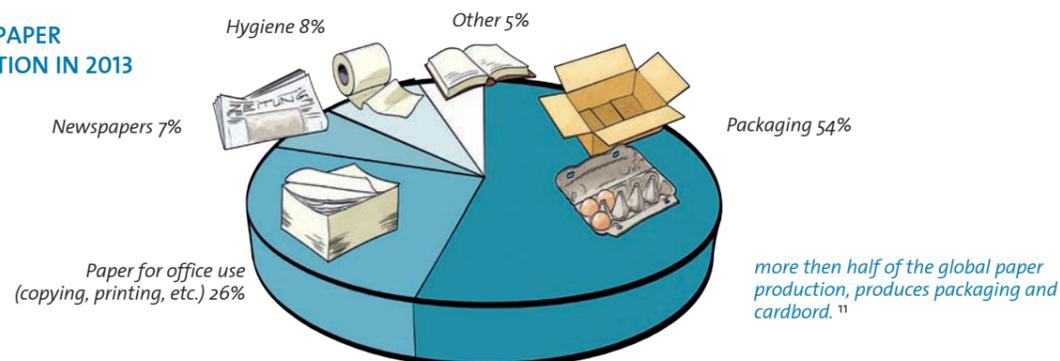
Each of the Earth's inhabitants used 55 kilogram of paper in 2014. On average, that is. As with nearly every other commodity, paper is shared very unequally. Europeans and North Americans appropriate between 125 kilogram and 215 kilogram each, whereas consumption in Latin America and Asia is well below the average. Per capita consumption is especially low in Africa; At 7 kilogram it is way below the minimum of 30 kilogram, which, according to UNESCO, is needed to meet basic human needs for education, communication, and hygiene.<sup>5</sup>

## Rapid growth

During the past 30 years global paper production has doubled to 400 million tonnes.<sup>6</sup> Nearly a fifth of the cellulose produced in 2014 came from the tropics, much of it from the rainforests of Brazil and Indonesia.<sup>7</sup> In Brazil an area somewhat smaller than Belgium was used to produce cellulose in 2015.<sup>8</sup> About 7 million tonnes of cellulose were produced in Indonesia in 2014<sup>9</sup> – much of the wood came straight out of tropical forest. Data covering the decade 2000-2010 shows that more than half the timber was cut down in the Indonesian rainforests.<sup>10</sup>



### GLOBAL PAPER PRODUCTION IN 2013



### RECYCLING PAPER VS. FRESHFIBER PAPER

	per kilo fresh fibre paper
water usage	50 litres
energy usage	5 kWh
fibre bases	2,2 kilograms of wood used to gain 1 kilogram of cellulose

	per kilo recycled paper
water usage	15 litres
energy usage	2 kWh
fibre bases	1,2 kilograms wastepaper

producing recycled paper uses less fresh fibers then producing fresh-fiber paper.<sup>18</sup>



## Be sure to collect and sort paper correctly

Which kinds of waste paper belong in recycling and which belong in general waste? This check-list will help!



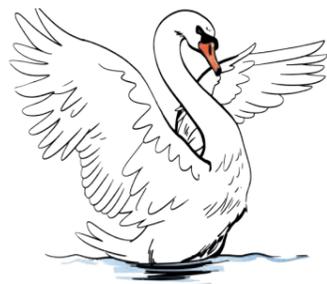
### GENERAL WASTE

- dirty packaging (e.g. pizza boxes)
- serviettes/napkins
- dirty paper plates
- baking paper, grease-proof paper
- padded envelopes
- wallpaper
- nappies
- lever arch files
- coated paper (you can tell by tearing it)
- self-adhesive labels
- tickets (thermal paper)
- cash receipts (usually thermal paper)
- hygiene products such as toilet paper, paper tissues, cosmetic tissues
- photo paper
- postcards
- Post-it notes (insoluble glue)



### PAPER FOR RECYCLING

- clean paper packaging
- paper for copying and printing
- school exercise books
- newspapers
- magazines, newsletters
- books (without hard cover)
- cardboard
- corrugated paper
- craft paper
- tracing paper
- envelopes (not self-adhesive)
- catalogues
- telephone directories
- beer mats (clean and dry)
- paper carrier bags
- wrapping paper
- blotting paper
- egg boxes



### DID YOU KNOW?

The old prejudice against recycled paper – that it was grey and ugly – was debunked long ago. Recycled paper is not at all inferior to virgin fibre paper and meets all the relevant norms for printing, copying, and archival storage, always keeping the eco-logical motto: “Only as white as necessary!” in mind.

Grade 60 white (ISO standard) is perfectly adequate for many uses, especially because moderate contrasts are gentler to the eyes. If we need whiter paper, grades 70 and 80 can be recommended as an alternative which is still comfortable for the eyes. There is now even grade 100 white (ISO standard) recycled paper with the Blue Angel label available. Higher grade whiteness requires a more intensive bleaching process, using additional energy and water. But even with this additional energy and water use, the ecological balance is still in favour of recycled paper rather than virgin fibre paper.



## Choose recycled products!

People who reduce their use of paper products are protecting valuable resources – including the tropical rainforest! Being a part of this is easy.

# What can we do?

## It's easy to save resources

- **Use recycled paper products:** tissues, toilet paper, paper for printing and copying, notebooks, etc.
- **Stop advertisements getting into your letterbox:** In Germany, put your name on the so-called Robinson List, so that you no longer find unwanted mailings in your letter-box. (Read more in German at [www.ichhabediewahl.de](http://www.ichhabediewahl.de).) And put a notice on your letter-box: „Bitte keine Werbung!“ (“No advertising, please!”).
- **Separate paper:** Collect waste paper in your paper recycling bin, and keep it separate from general waste.
- **In Germany, look out for the Blue Angel:** When you buy paper products, always look out for the Blue Angel – and use your power as a consumer. Ask publishers or newspaper printers whether they use recycled paper – and, if not, why not.
- **Use paper sparingly for printing and copying:** Print documents only when you have to – and be sure to print double-sided. Any paper which is printed on one side only can be re-used as notepaper.
- **Share newspapers and books:** Pass them on to other people.
- **Reduce the number of catalogues:** Cancel all surplus or unwanted catalogues. Or share them with your neighbours.
- **Avoid creating a need for packaging:** Buy locally and avoid online purchases which require a lot of packaging.
- **Make creative use of unused printed material:** Transform unwanted paper into wrapping paper or envelopes.

## The Blue Angel – the angel we deserve



The Blue Angel environmental label was introduced in Germany in 1978 to protect both the people and the environment.<sup>19</sup> This turned out to be the beginning of a model success story: The Blue Angel, awarded by the “Environmental Label Jury”, is now known to 90 percent of the German population as a reliable label for environmentally friendly products. As the leading environmental label, it is also popular with businesses.<sup>20</sup> Paper products which are certified with the Blue Angel are made from 100 percent recycled paper and meet very strict criteria regarding the use of chemicals. This environmental label is being developed further all the time. Printed products can now carry the Blue Angel label. Before achieving certification, the entire printing process is assessed, including all the materials used. OroVerde recommends products certified with the Blue Angel, because of the strong and precise criteria which ensure that the environment is protected.

## For further information

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#### Imprint

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**Layout:** Edith Maier **Drawings:** Özi's Comix Studio

**Fotos header:** iStock/skynesher, K. Wothe, OroVerde/ E. Mannigel, OroVerde/ L. Rohnstock, OroVerde,

**Fotos content:** K. Wothe, shutterstock/stable, J. Bakker, OroVerde/E. Mannigel, J. Schovenberg/ E. Schiffgen/ J. Herold/ S. Nagel, Fotolia/olly

**First published:** December 2017



**ORO VERDE**  
Tropical Forest Foundation

#### Publisher:

OroVerde - Die Tropenwaldstiftung, Burbacher Straße 81, 53129 Bonn  
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**OroVerde - donations account:** Bank für Sozialwirtschaft, BIC: BFSWDE33MNZ, IBAN: DE20550205000008310004

The publisher is solely responsible for the content.

#### Financed by the European Commission in line with EYD15:

The future we want - Local Authorities for Sustainable Development.

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