



Erasmus+

Recycling the paper

RECYCLING Makes the World Go Round
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THE PROCESS

The recycling of paper is the process by which waste paper is turned into new paper products. It has a number of important benefits: It saves waste paper from occupying homes of people and producing methane as it breaks down. Because paper fibre contains carbon (originally absorbed by the tree from which it was produced), recycling keeps the carbon locked up for longer and out of the atmosphere. Around two-thirds of all paper products in the US are now recovered and recycled, although it does not all become new paper. After repeated processing the fibres become too short for the production of new paper, which is why virgin fibre (from sustainably farmed trees) is frequently added to the pulp recipe.



Reduces Deforestation
Deforestation is the process of removing trees from an area and turning the area into a place of non-forest use, such as farms or urban settlements.

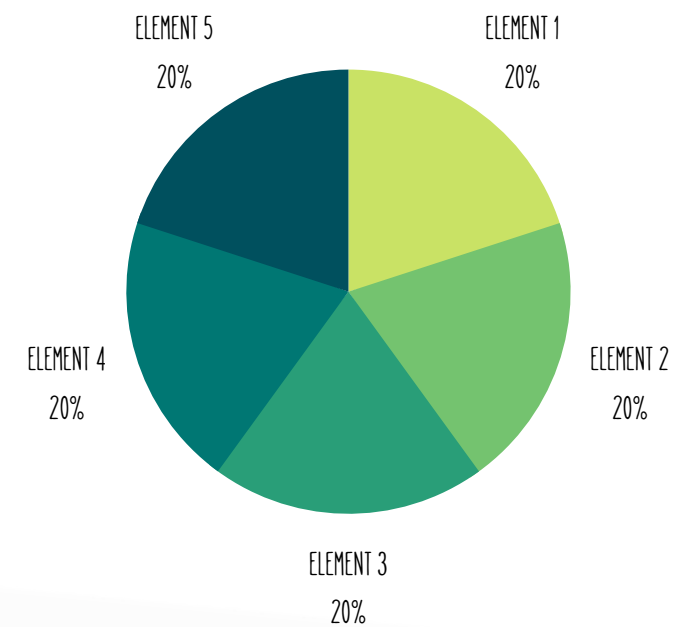
Benefits:

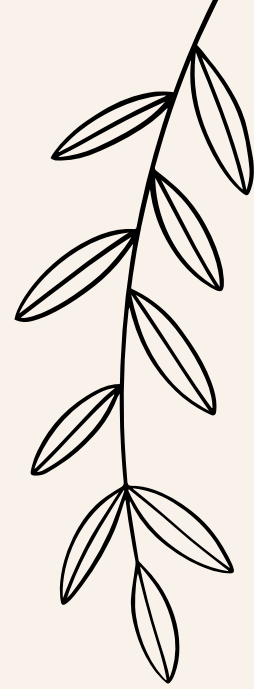
Much of the world's deforestation happens in tropical rainforests, which contain ecosystems that are key to our survival.

Deforestation is usually a result of lax laws or miseducation, need for fuel, building and manufacturing (such as paper), and requirements for plantations and livestock.

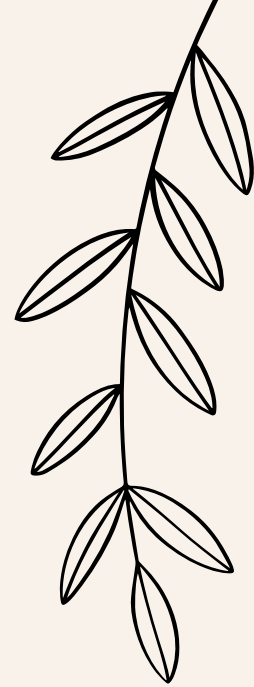


- WE SAVE FORESTS
- WE LIVE LONGER
- WE ARE MORE HEALTHY
- SAVE ANIMALS



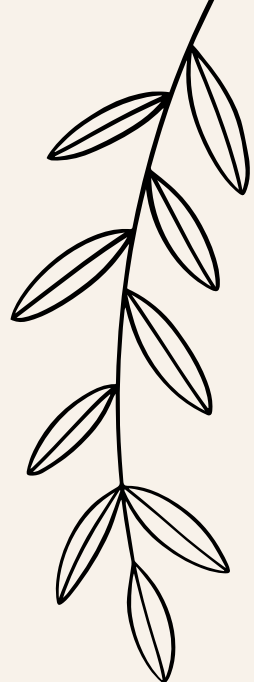


We have an abundance of water on our planet, so why are there rallying calls to 'save it?' Because although water makes up to 75% of our planet, most of it isn't drinkable. While 2.5% is drinkable freshwater, most of this water is stored in glaciers, so we can't access it. We use an astonishing amount of water to produce paper, and a large amount to recycle it, too. If you have some close by, take a piece of paper in your hand. Have a good look at it. How much water do you think it takes to produce that single piece? Hold that thought.



REDUCES POLLUTION

A ton of paper pollutes 20 gallons of water. Wastewater can cause problems in freshwater bodies such as eutrophication which is where an overproduction of minerals results in an excessive growth of algae which causes changes to biodiversity and increased toxicity. Discharges can also affect the colour of the water, which happened to the Tarawera River in New Zealand as it became known as the black drain. Air Paper milling produces many toxic gases such as carbon monoxide, nitrogen oxide and sulfur dioxide. The former is a greenhouse gas that causes climate change, and all are a cause of acid rain. Land Paper makes up around 26% of the total amount of waste generated in 2014 and around 14% of the total waste that goes into landfill sites. Paper waste contains toxic ink, dyes and polymers that could be carcinogenic when incinerated. While recycling does alleviate this, we have to use energy used to transport, recycle and reuse. However, 50% less energy is used when recycling rather than using new, fresh wood for paper. By minimising paper use, you'll be helping to reduce the amount of pollution in our water, air and land



PREVENTS ILLEGAL LOGGING

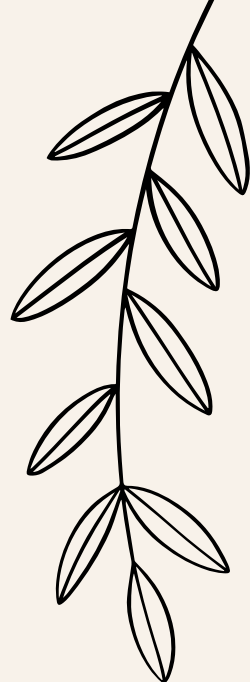
Illegal logging is the plantation, harvesting and selling of timber through prohibited means and violates regulations. However, it isn't easy to identify illegally sourced timber, so it's often unprosecutable. It's thought the illegal logging trade is worth around £7.7 billion per year, with much of it thought to happen in the Amazon Basin, Southeast Asia, Central Africa and Russia. However, figures are often skewed, in 2003 The Republic of Estonia declared the total at 1%, whereas the Estonian Green Movement said as much as 50%.

INTERESTING FACTS ABOUT RECYCLING

Approximately 1 billion trees worth of paper are thrown away every year in the U.S. Each year, 27 million acres of tropical rainforests are destroyed. That's an area the size of Ohio, and translates to 74,000 acres per day...3,000 acres per hour...50 acres per minute. Each ton of recycled paper can save 17 trees, 380 gallons of oil, three cubic yards of landfill space, 4,000 kilowatts of energy, and 7,000 gallons of water. This represents a 64% energy savings, a 58% water savings, and 60 pounds less of air pollution

To produce each week's Sunday newspaper, 500,000 trees must be cut down. If Americans recycled all of their newspapers, we could save 250,000,000 trees a year. The average American uses seven trees a year in paper, wood, and other products made from trees. This amounts to about 2,000,000,000 trees per year.

The 17 trees saved (above) can absorb a total of 250 pounds of carbon dioxide from the air each year. Burning the same ton of paper would create 1,500 pounds of carbon dioxide. The construction costs of a paper mill designed to use waste paper is 50 to 80% less than the costs of a mill using new pulp.



ADVANTAGES

Saving raw materials, increasing production The world's annual timber demand is more than 2 billion m³, and the annual growth rate is above 25%. Producing 1t recycled news paper pulp can save 2m³ lumber than producing 1t ground wood pulp. Producing 1t high whiteness waste paper pulp can save 5m³ lumber than producing 1t bleaching chemical pulp. Reducing pollution and protecting the environment Waste paper recycling features load light water pollution, low water consumption, no waste gas pollution. It can reduce the timber cutting rate and is conducive to ecological balance and environmental protection. Saving energy and reducing energy consumption Producing 1t recycled news paper pulp can save about 75% energy consumption than producing 1t ground wood pulp. Producing 1t high whiteness waste paper pulp can save more than 50% energy consumption than producing 1t bleaching chemical pulp. Saving investment and reducing costs Paper recycling industry requires only 25%-30% of the investment that the ground paper pulping industry need. The investment in waste water treatment facilities is lower for making recycled paper pulp than making original pulp. Waste paper pulp has advantages of low raw material cost, low energy consumption and low investment, and its production cost is lower than the original pulp, too




DISADVANTAGES

Waste water treatment The waste water produced by the paper industry is characterized by wide variety, large amount and high organic pollutants. The waste water comes from the process of pulping and paper making has complex physical properties and multiple organic pollutants which make it one of the most difficult industrial waste water to process. The main pollutants in paper industry waste water include solid pollutants, soluble pollutants, colloidal pollutants, etc. There are four main pollutants in waste water: SS, CODCr, BOD5 and chromaticity. CODCr, and BOD5 are mainly from lignin and hemicellulose in waste water. Small fibers, inorganic fillers and other materials can form SS. The pollution of recycled paper industry can cause serious environmental problems if it is not treated carefully. What is difficult to handle in the recycled paper pulping waste water treatment is not solid materials, but the soluble pollutants and colloid pollutants. Their ingredients are: dissolved organic acid, organic and inorganic salt, carbohydrate, soluble content of lignin products, printing ink, chemical additives, soluble constituents, scattered small form a stable colloidal pollutants in waste water etc. With the rapid development of paper making industry, more and more waste water is produced in the paper making process, and the pressure on the environment is increasing. The management of paper making waste water will be necessary for sustainable development. Deinking and bleaching In the production of recycled paper, the waste paper needs to be deinked and bleached. The deinking section of the paper industry will produce a lot of chemical pollutants. Bleaching section is usually adopts chlorine bleaching. Therefore, bleaching effluent contains a large number of chlorinated organic compounds. The chlorine phenol, fatty acid chloride, chloride resin acid toxic and other chlorinated organic compounds is very difficult to deal with. And they are strong poison which can cause multiple cranial nerve lesions.

RECYCLING PAPER IN FRANCE

France takes great care when recycling its paper (papier), so much so that it recycles 60.5% of it. You can deposit your paper in a bin with a yellow top. These bins hold mixed recyclable waste and are used widely throughout France. Collection happens twice a week but may differ depending on your municipality. You can throw papers with staples into your yellow bin, but do not throw away soiled napkins or absorbent papers here, as they belong with your compost waste. At the recycling plant, they will treat your paper and make it into new sheets or cardboard





Thank you
for caring!