



Oxygen reduces the eco-footprint of paper

Oxygen and ozone improve the efficiency and eco-balance of numerous processes in pulp and paper production. These gases are increasingly popular replacements for harmful chemicals.

Global demand for paper is continually rising

To this day, the “paperless” office has yet to materialise. In fact, demand for paper is actually increasing worldwide. Market researchers set global demand at approximately 450 million tonnes by 2015, fuelled largely by fast-growing China. Researchers also predict a steady rise in demand in Europe.

This makes it even more important not just to save paper wherever possible, but also to ensure that we put environmentally friendly production solutions in place. We have been working closely with our customers to develop sustainable paper and pulp processes chains since the 1980s. The paper industry is long-since established as one of the biggest environmental polluters. This is due to the large-scale consumption of wood, but also to the huge amounts of water and energy required. Huge progress has already been made on this front. In modern pulp and paper mills in Europe and North America, and increasingly also in Asia, fresh water is almost completely recovered and recycled. Even the chemicals used in the paper process chain can be recycled. And small power plants fired by organic waste from pulp production can create electricity, steam and hot water.

Oxygen replaces chlorine

The products and services that Linde provides to the pulp and paper industry range from plant monitoring and operation to employee training. Gas solutions allow manufacturers to fulfil their customers’ quality expectations on the other hand and comply with increasingly strict environmental regulations on the other.

The most important gas in the paper industry is oxygen, which has many applications. For example, it often replaces chlorine in the bleaching process. More and more pulp production plants also use ozone (O₃) for bleaching. Ozone is an increasingly popular bleaching agent as it is more environmentally friendly than other chemicals, such as chlorine dioxide. This powerful oxidizing agent causes irritation to the respiratory passages, but quickly decays to ordinary diatomic oxygen.

We also supply oxygen for pulp mill wastewater treatment systems – particularly in Europe, where they are mandatory for the mill to receive an operating license. As in other types of wastewater treatment systems, oxygen is used to enable bacteria to break down organic substances. Instead of delivering oxygen via tanker, Linde often builds on-site plants. This eliminates long-distance transport-related emissions.

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