

Appreciating Tissue Paper Products:

Have you ever really thought about them?

Think, if you will, about the last time you sat down in a restroom and realized **there was no bathroom tissue**. What went through your mind? I'd be willing to bet a large amount of money that it was **NOT**

- how tissue paper products **help human hygiene and health**
- the **positive environmental story** these products tell
- the **advanced science and technology** used to make them.

1. Hygiene: The value and benefits of tissue

Despite often being overlooked, in most parts of the world a day without tissue paper products is unthinkable. **Bathroom tissue, paper towels, facial tissue, paper handkerchiefs and table napkins** all play a critical role in our basic daily hygiene, cleanliness and comfort. They are marvelously efficient at supporting hygiene by **preventing the spread of dirt, germs, bacteria, viruses and disease**.



Global health experts say Hygiene is the Number 1 factor in human health worldwide. Without hygiene you don't have health and, without health, soon you don't have life. Tissue often plays a key role in many ways. For example, just look at paper towels.

In a report in the respected Mayo Clinic Proceedings the authors state: "From a **hygiene viewpoint, paper towels are superior** to electric air dryers, and should be recommended in **locations where hygiene is paramount**, such as hospitals and clinics. Many studies have found friction and mechanical abrasive action to be a key component in hand drying for removing contamination, and microbiological testing after use has indicated that many bacteria were transferred from the hands to the paper towels."

Further comments confirming the importance of paper towels came from the late **Professor Hans Rosling** of the Karolinska Institute in Sweden. Rosling, who spoke numerous times at the **TED talks** and the **Davos–World Economic Forum** and was one of the world's leading experts on public health, has confirmed that the last major outbreak of cholera in Chile was traced back to and spread by **dirty textile kitchen rags**. "Perhaps **paper kitchen towels would have been useful** in avoiding this tragedy," he stated.



Cholera bacteria

No matter which type of tissue you're talking about – Bathroom tissue, paper towels, facial tissue, table napkins, as well as commercial and industrial wipes – they all help

prevent the spread of dirt, germs and disease. Quite simply: **Tissue is an easy and inexpensive way to achieve cleanliness and comfort.**

2. But what about the environment? Isn't paper bad?

No, not really. In fact, it's very good.

Renewable, Recycled and **CO2 Reduction** are all extremely hot topics these days. And the paper and tissue industry have a very positive story to tell with respect to all of these issues. The **Renewable** wood fibers used in papermaking quite literally grow on trees, and come **mainly** from **sustainable, managed forests and tree plantations**. Trees are grown and harvested, like a crop, and new seedlings are then carefully replanted. It is hard to think of any other major manufacturing industry that uses such a high proportion of **renewable resources as its primary raw material**.



Seedlings

Recycled fibers also play an important role **as a raw material** for tissue paper products, making up around **35% of the all fibers** going into tissue production globally. Today, worldwide demand for recovered paper and fibers is so great that essentially all recycled fibers that can be used, are being used. Wood fibers are naturally degraded after they are recycled 3-5 times, so therefore **new fibers must always be coming into the system**.

Regarding **CO2 reduction**, the managed sustainable forests which feed the paper industry **bind trillions of tons of carbon**, *helping reduce global warming enormously*. Furthermore, the pulp mills which process wood to make pulp are mainly **powered by a renewable biofuel**, the energy-rich lignin which glues fibers together in the trees. Wood is essentially made up of cellulose fibers and lignin and burning the lignin for power, instead of finite fossil fuels, is positive from an environmental viewpoint.

3. Trees actually come from thin air – Believe it or not

As strange as it might sound, almost **all matter that makes up a tree comes from the air** around it. Trees don't grow from materials in the ground; otherwise there would be a large hole in the earth around each tree. Instead trees process air using the energy of the sun, via photosynthesis, to **split atmospheric carbon dioxide (CO2) into its components: Oxygen and Carbon**. The **Carbon**, which is the primary molecular building block of the tree, then is **transformed into carbohydrates** which make up the cellulose fibers. The **oxygen, O2, is given off by the tree**, allowing us to breathe and live.

This tree-growing process removes enormous quantities of CO2 from our atmosphere. When trees are young, they grow much faster and 'eat up' much more CO2 than when they are older and mature. Therefore, **cutting mature trees and replanting the next crop of new**

trees is a positive step for the environment, provided it is done with managed sustainable forestry, as practiced in most countries.

4. Technology and science – Perfectly combined in a thin, light, functional sheet of paper

An important aspect of tissue paper products that's sometimes overlooked is the advanced science and technology used to make them. Tissue products are not simple commodities, but instead are **high-tech paper specialties** based on complex science. To make a tissue sheet, sometimes weighing as little as 13 grams per square meter (0.04 ounces/ft²) with the right **softness, strength and absorbency engineered into the product**, is no simple task.

Paper machines making the ultra-light tissue paper can be **as long as 45 m (150 feet), 8 m (26 feet) wide** and **running at 2,000 meters per minute (75 mph)**. Many factors must be combined to achieve this. This field is called **Paper Engineering**, which deals with physical sciences like chemistry, physics, and mechanical engineering, combined with biology and biochemistry, and applied to convert raw materials into these useful paper products.

Large jumbo rolls made on the paper machine can weigh several tons. These are then **transformed in the converting process** into the finished products you are familiar with, such as rolls of bathroom tissue or kitchen paper towels, as well as folded products like facial tissue, handkerchiefs and napkins. Advanced high-speed machines carry out the **complex winding, cutting, slitting, printing and embossing steps** while retaining the functional properties: softness, strength and absorbency. Finally, the products are wrapped and packaged into the format needed for stocking in a supermarket or other distribution center before going to the final consumer.



Jumbo rolls weighing several tons

5. Give it some thought – and appreciation

If you are not familiar with the tissue sector, you may have just learned more than you ever wanted to know about tissue paper products. At the same time, maybe you will have a slightly greater appreciation for how they:

- **Help human hygiene and health**
- **Tell a very positive environmental story**
- **Are made with advanced science and technology.**

I call these 3 points: H-E-T, an acronym for Hygiene-Environment-Technology.

If you have learned something new, you might want to **share this article** with your friends and connections. As they say, **“Life is for Learning.”**

If you work in the tissue business, whether a manufacturer, supplier, distributor or retailer, perhaps you can **share this article** with colleagues, co-workers and friends.

Either way, Tissue has a great story to tell, and you can find out more on the new [TissueStory.com website](http://TissueStory.com). Sign up for the free quarterly TissueStory newsletter highlighting the latest stories and info about tissue here - <http://eepurl.com/cBBUOn>