It’s simple; we can’t live without plants. That’s why there is such a big furore about the devastation of the rainforests. They stop soil erosion but also, very importantly, they act as the lungs of the earth, providing oxygen for us to breathe and absorbing much of the carbon dioxide in the air.

You will probably ask what this has to do with a humble indoor plant in my home or office (or other workplace).

Cleaning the air we breathe indoors is just one of their functions, but we’ll start with that one.

Why is it important to clean the air indoors? Well, for starters, poor air quality and sick building syndrome (SBS) are linked. When plants are installed in offices the reduction of symptoms linked to SBS are dramatic – headaches reduced by 45%, hoarseness/dry throats by 30%, fatigue by 32% etc.

An added bonus is that the introduction of a planting can also reduce absenteeism; in one school absenteeism has been reduced by 33% and in a hospital in Norway by more than 60%.

With sick absence costing employers more than £100bn each year the sense of investment in planting becomes clear.

Symptoms linked to SBS
- Headaches
- Respiratory and sinus congestion
- Allergies
- Eye, nose and throat irritations
- Skin irritations
- Fatigue
- Asthma

As interesting background information, the Environmental Protection Agency has found that indoor air can be 10 times as polluted as the air outside. Would you want to breathe in polluted air while you work or play? Did you know we breathe in fivesix litres of air per minute?

That’s a massive 15,000 litres per day.

Add to that the fact that our bodies contain more than 100 additional chemicals than those of our grandparents (Source: Environmental Supplement, The Guardian, January 2000) – it’s all pretty scary stuff. But plants can make a difference.

Cleaning up the air around us

Naturally, plants emit oxygen for us to breathe while absorbing the carbon dioxide we emit while breathing. And they also absorb other toxins found in the air.

What might these toxins be? Essentially, all manmade materials used in the building fabric of your workplace or home and any of the furnishings, as well as cleaning and hygiene products – not to mention the mass of electronic technology we surround ourselves with today; all of them ‘off-gas’ into their immediate environment.

And materials used to build or for furnishings continue to off-gas for their lifetime too!

Products that off-gas include adhesives, fabrics, paper products, floor and wall coverings, particle board, chipboard and plywood, paints and varnishes. Cleaning materials and personal hygiene products are also included, as are electrical products – electro-photographic printers and computer screens in particular.

The science bit

So how do plants absorb the toxins? First of all, plants create their own micro ecosystem around themselves.

And although we cannot see anything happening they are working very hard absorbing carbon dioxide and other toxins through their leaves and growing medium. Some of those are naturally broken down by the plants' biological processes while others are taken down into the root system. Here, microbes living in the growing medium turn them into food for the plant.

It's a perfect natural recycling process.

Better still; the plants are never satiated, so they can keep taking in the toxins!

One of the big questions is how many plants are needed to clean the air in a workspace. Research undertaken in Australia has some pointers for this.

In a 12m2 room occupied by one person, six small table-top plants or three large floor-standing plants do the trick. Those measurements were confirmed in both air conditioned and non-air conditioned offices at Sydney University.

Any changes in the format, ie a larger room or being occupied by more than one quantification, so the format is a guide. At the BMW headquarters in Munich they successfully improved air quality and workers' SBS symptoms: but they used a lot of plants (picture, page 21).

More than purely physical

So keeping us physically healthier is an immediate benefit; but researchers believe that the benefits are more than just physical – they are also psycho-social and environmental-psycho.

Genetically, we are still made up organically the same as our ancestors of 10,000 years ago but our environments and lifestyles have changed dramatically.

No longer do we live in the great outdoors – in fact we are lucky if we spend more than an average of half an hour outdoors per day.

And the benefits just keep coming

We know from studies that being around plants improves our general well-being, but there are a wealth of other effects that we receive from surrounding ourselves with a little of nature indoors.

For instance, plants improve our creative capacities by as much as 15% and our ability to solve problems.

They make us more attentive and less prone to fidgeting in listening situations; they make us as much as 12% more productive and improve our concentration by up to 23%, especially if we spend a lot of time in front of a computer.

They raise humidity levels to make us feel more comfortable, which is particularly useful with central heating and air conditioning. They reduce the number of dust particles forming by their transpiration of water. Basically, they give back 97% of the water we give them so water lovers are particularly good for raising humidity and keeping dust particles to a minimum.

Plants also make good noise barriers, especially in hardfloor areas, and can be used effectively to give good shade inside and out from summer sun.

And let’s not forget that plants help to de-stress us and keep us calm. In fact plants actually reduce the physical signs of stress by taking pulse rates and blood pressure down in stressful situations. With stress one of the two biggest causes of absenteeism that is worth taking into account.

In fact, a daily dose of green plants wherever you spend time can do nothing but benefit you.

For more information about the support research and case studies, visit www.plantsforpeople.org.