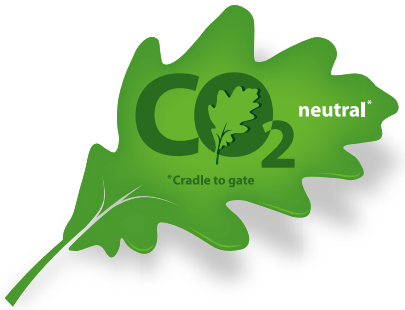
MARMOLEUM CO_2 NEUTRAL

Marmoleum is Forbo's established linoleum brand.

Marmoleum, the sustainable floor

Marmoleum is a cradle-to-gate CO_2 neutral product range without offsetting.*
It combines ecological values with contemporary design and offers an important contribution to a sustainable world.



**weighted average of the Marmoleum portfolio, cradle to gate*

marmoleum®
live forward

creating better environments

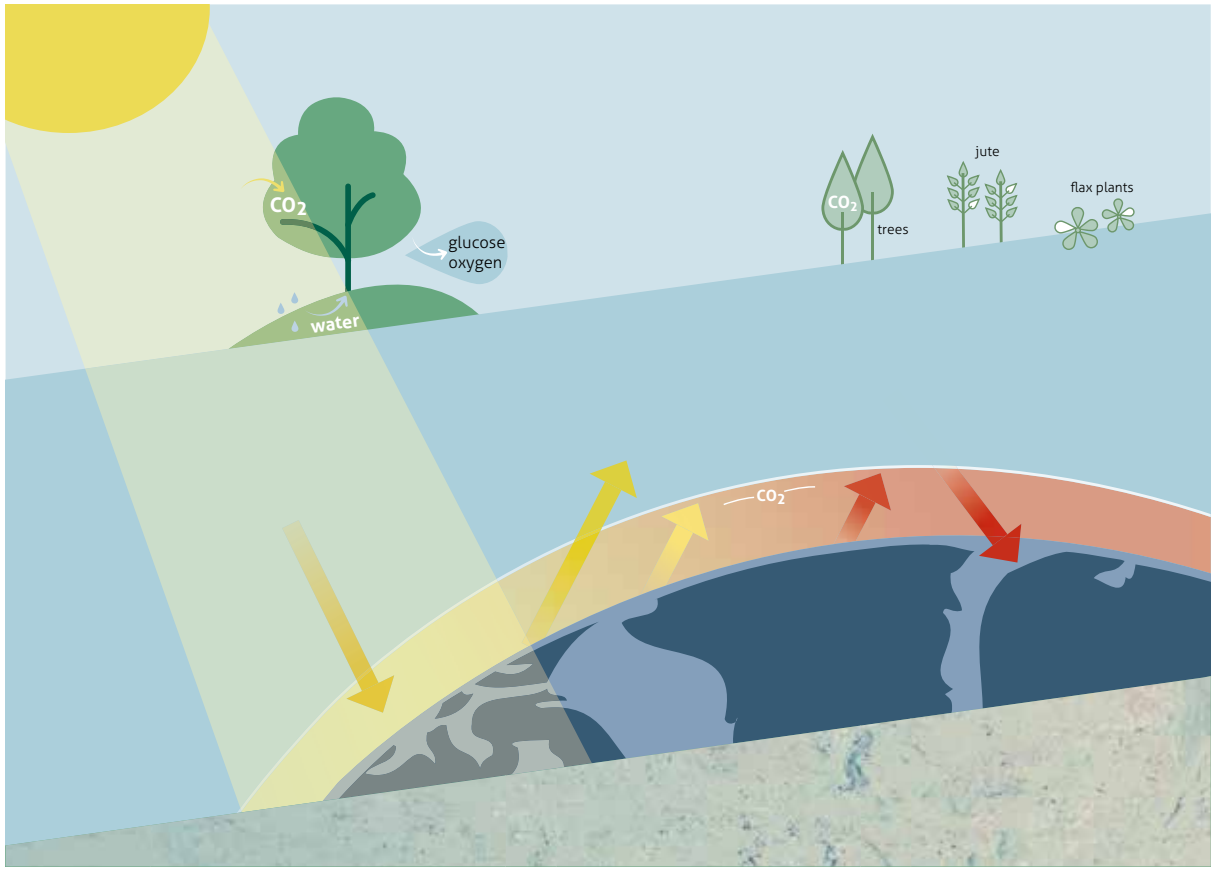
Forbo
FLOORING SYSTEMS

Global warming through CO_2 emissions

Global warming is the effect caused by an accumulation of so-called greenhouse gases such as carbon dioxide (CO_2) and methane in the earth's atmosphere. These gases effectively form a blanket around the earth, trapping in heat. The burning of fossil fuels for energy has increased concentrations of greenhouse gases in the atmosphere, and is believed to be causing the surface of the planet to get hotter.
The Paris Agreement is a framework for tackling climate change internationally. It sets the goal of 'keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius'.[1]
In order to achieve this, greenhouse gas emissions must be curbed by relying less on fossil fuels and transitioning over to green and renewable sources of energy.
The building sector is a major contributor of carbon dioxide emissions, and the introduction of tougher building standards is therefore anticipated. Marmoleum has a part to play as it has a low carbon footprint for a mainstream floor covering.

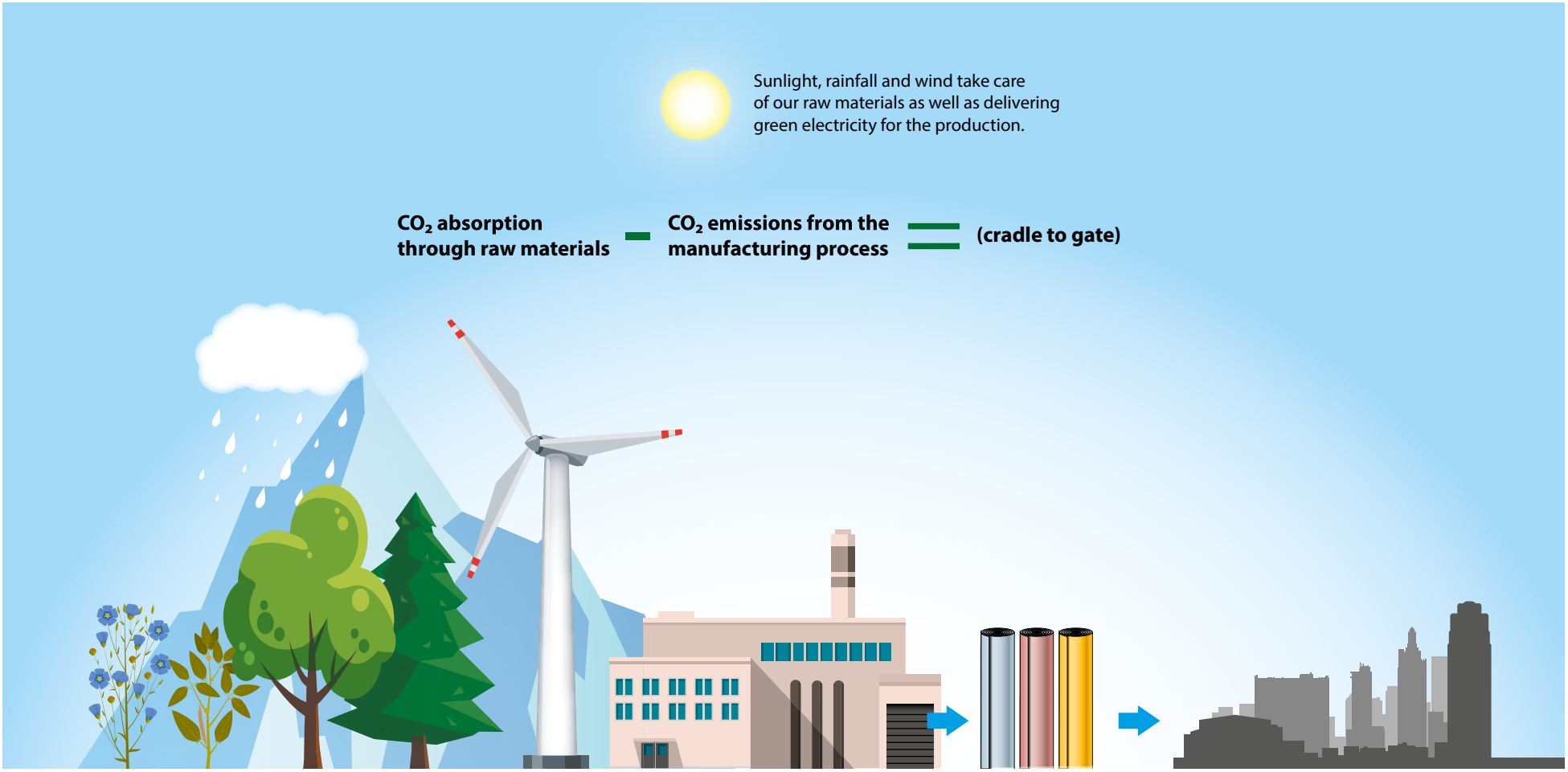
[1] United Nations Climate Change, *The Paris Agreement*, https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

Marmoleum's use of natural raw materials results in the manufacturing phase of its life cycle being carbon neutral - this is the result of CO_2 being removed from the atmosphere, during the growth or life of natural materials such as jute, roisin, woodflour, flax plant, alongside the use of renewable energy forms and efficient manufacturing processing. There are very few other flooring types that can make this claim.



forbo FLOORING SYSTEMS

The weighted average of our Marmoleum product range is CO_2 neutral (cradle to gate) without offsetting.



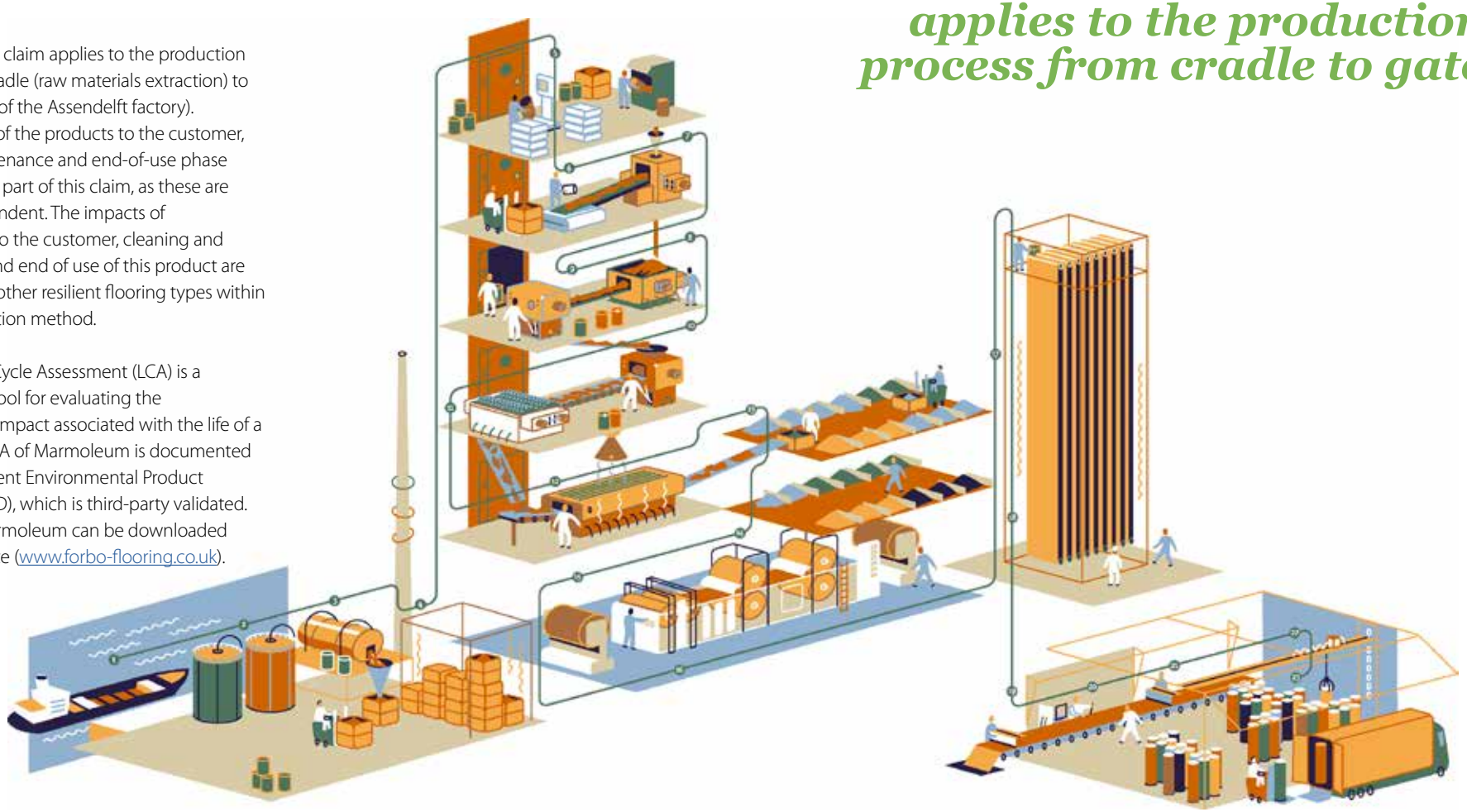
The combined photosynthesis of all plants used in Marmoleum achieves a CO_2 uptake that is greater than the CO_2 emissions resulting from the product phase of its lifecycle. As such, Marmoleum is CO_2 neutral, cradle to gate.

Cradle to gate

Our CO_2 neutral claim applies to the production process from cradle (raw materials extraction) to gate (the gates of the Assendelft factory). Transportation of the products to the customer, cleaning, maintenance and end-of-use phase impacts are not part of this claim, as these are customer-dependent. The impacts of transportation to the customer, cleaning and maintenance and end of use of this product are comparable to other resilient flooring types within the LCA calculation method.

A product Life Cycle Assessment (LCA) is a measurement tool for evaluating the environmental impact associated with the life of a product. The LCA of Marmoleum is documented in an independent Environmental Product Declaration (EPD), which is third-party validated. The EPD for Marmoleum can be downloaded from our website (www.forbo-flooring.co.uk).

Our CO_2 neutral claim applies to the production process from cradle to gate



From natural materials to Marmoleum rolls

Marmoleum is made from natural, renewable, recycled and reused materials. More than 50% is renewable and even more than 25% of that is rapidly renewable. The linseed oil, gum rosin, wood flour and jute used in Marmoleum have a harvest cycle of under 10 years and can be defined as rapidly renewable. Flax is an annual crop and can be harvested as long as the sun shines and rain falls and as such, it is the most reliable, and sustainable material used in any floor covering.

Recycled and reused products in Marmoleum are for instance wood flour and re-used linoleum. Any Marmoleum that is left over or trimmed off during the manufacturing process is fed back into production. Like all other upcycling materials, technically, these remnants cannot be positively included in the environmental footprint of Marmoleum, but they do retain their natural character.

The basis for this sustainable floor covering is linseed oil, which is extracted from the seeds of the flax plant. This linseed oil is mixed and heated-up with tree rosin to produce a linoleum paste. To this, we add finely ground, upcycled wood flour from the branches, trunks and roots of trees harvested in the certified forestry industry. Finely ground limestone is added as a fourth element. A host of different colour pigments ensures great visual variety. The linoleum paste is then calendered onto a 2m-wide jute mesh, which serves as a natural backing material for the Marmoleum. The floor covering is pressed into its final form over a long production line of castors and rollers, and held in drying rooms for around three weeks. Once the linoleum is dry enough, it is trimmed to size and packaged, before being sent to the fully automated warehouse.

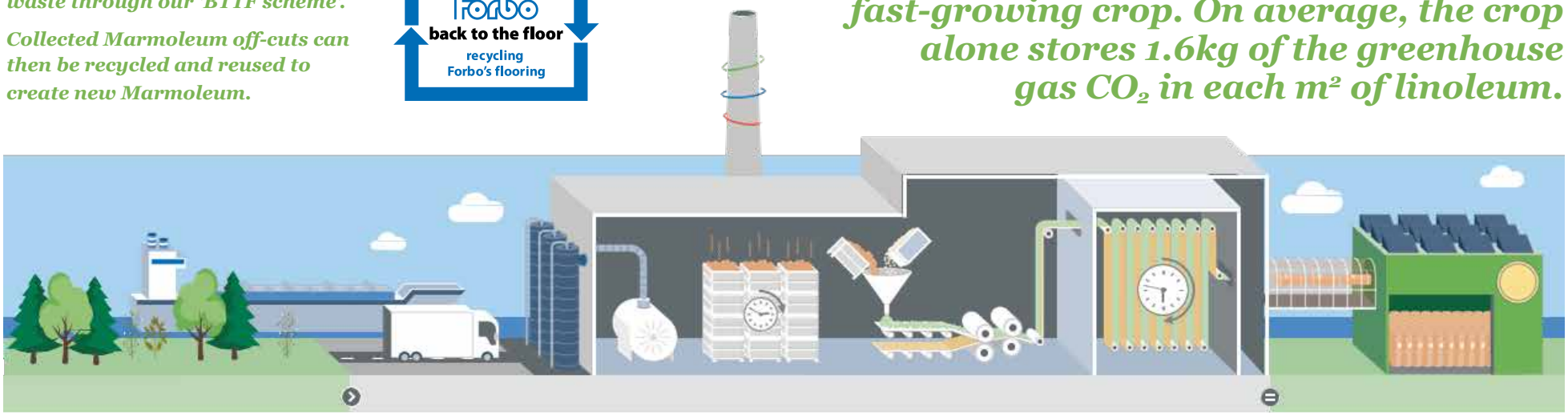
DID YOU KNOW?

We collect and recycle installation waste through our 'BTTF scheme'.

Collected Marmoleum off-cuts can then be recycled and reused to create new Marmoleum.

Forbo
back to the floor
recycling
Forbo's flooring

Marmoleum contains linseed oil derived from the seeds of the flax plant, a fast-growing crop. On average, the crop alone stores 1.6kg of the greenhouse gas CO_2 in each m^2 of linoleum.



MARMOLEUM **CO2 NEUTRAL**

Facts about our marmoleum factory in Assendelft, Netherlands

The energy used is predominantly required for the calendering process and the heaters that regulate the drying process of the linoleum sheet.

The route that the rolls of finished linoleum take to the warehouse is emission-free, thanks to a suspension-rail conveying system spanning 750 metres.

Between 2013 and the beginning of 2020, Forbo reduced CO_2 emissions from logistics by 31.5% – without changing transport routes – thanks to the introduction of environmentally friendly vans and electric vehicles on factory premises.

100% of the electricity used for the production of Marmoleum comes from renewable sources like water power.

Forbo has installed solar panels on the newest of its three large warehouses, for which it received LEED gold certification as a particularly environmentally friendly building.

Forbo is committed to continuous process optimisation: more green energy, solar cells and green energy supplier selection.

Marmoleum's CO_2 neutral status, in the cradle to gate phase, is a major achievement in our endeavour to create better environments. But sustainable improvement does not stop at carbon neutrality: Forbo's sustainable horizon is focussed on circularity and healthy buildings.

creating better environments

Forbo FLOORING SYSTEMS