

LET'S STOP **CLIMATE** CHANGE!

SUSTAIN **FORESTS** – THE RESOURCE OF FUTURE.

FOREST & CLIMATE

Forests under threat

German forests are under threat. Trees are immovable and live for a very long time. They cannot escape, and they cannot quickly adapt to new environmental conditions. Climate change has arrived in Germany. The frequency and intensity of extreme weather conditions such as heat, drought and storms, pose a significant threat. As a result, the trees are weaker and give way to pest infestations. Climate change is threatening the forest habitats and thus, the entire biodiversity of the ecosystem.

The impact of forestry on climate change is clearly illustrated by the example of the spruce tree. The most common type of tree in Germany is of particular economic importance, since it grows very fast and its wood is very versatile. Today, it can be found in many places outside its natural range. This is the reason why the problems for the spruce trees have now significantly increased due to changing climatic conditions.

At extreme sites, climate change can lead to the failure of whole forests, because the trees cannot keep pace with long dry periods. Insects and fungi are then prone to mass multiplication. Storms, such as Hurricane Kyrill in 2007, can result in the dissolution of entire forest stands for the following years, especially in large spruce stands.

An important approach to the stabilisation and vitalisation of the stands is the conversion of forests to climate-adapted mixed forests with predominantly native broadleaf and needle tree species.

Carbon stocks of forests

The forests are of crucial importance for climate protection: Along with the world's oceans, forests, they are the most important carbon reservoirs. Currently about 2.5 billion tons of carbon are bound in the German forests and forest soils. That is about 224 metric tons of carbon per hectare. From this, 46% is attributable to the above- and below-ground biomass, 1% to the dead wood, and 53% to the ground. The forest in Germany currently relieves the atmosphere annually by about 58 million tons of CO₂.

By enclosure in wood products, the atmosphere is freed from additional 3 million metric tons of carbon dioxide. A load of 66 million metric tons of carbon dioxide in the atmosphere is prevented by material and energetic utilisation of wood as a substitute for other resources.

Altogether, German forestry relieves the atmosphere from 127 million metric tons of carbon dioxide every year. This corresponds to 14 percent of the total annual carbon dioxide emissions of Germany.

Adapting the forests to climate change

Climate change forces foresters to act. Risk has to be minimized, to ensure that our forests are fit for the future. Stable tree species compositions and species adapted to future climate conditions are the proactive solution favoured by foresters and forest owners. This also in favour of biological diversity. For many decades, our forest experts have been rebuilding forests and enriching them with new tree species, such as the Douglas fir, which were once native to this part of the world and are well suited to the conditions. Every year, millions of new trees are planted, also converting monocultures into valuable mixed forests. If individual tree species such as spruce, ash or elm fail, due to extreme events, new illnesses, insect pests or fungi, other tree species are able to fill these gap in the forests.

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