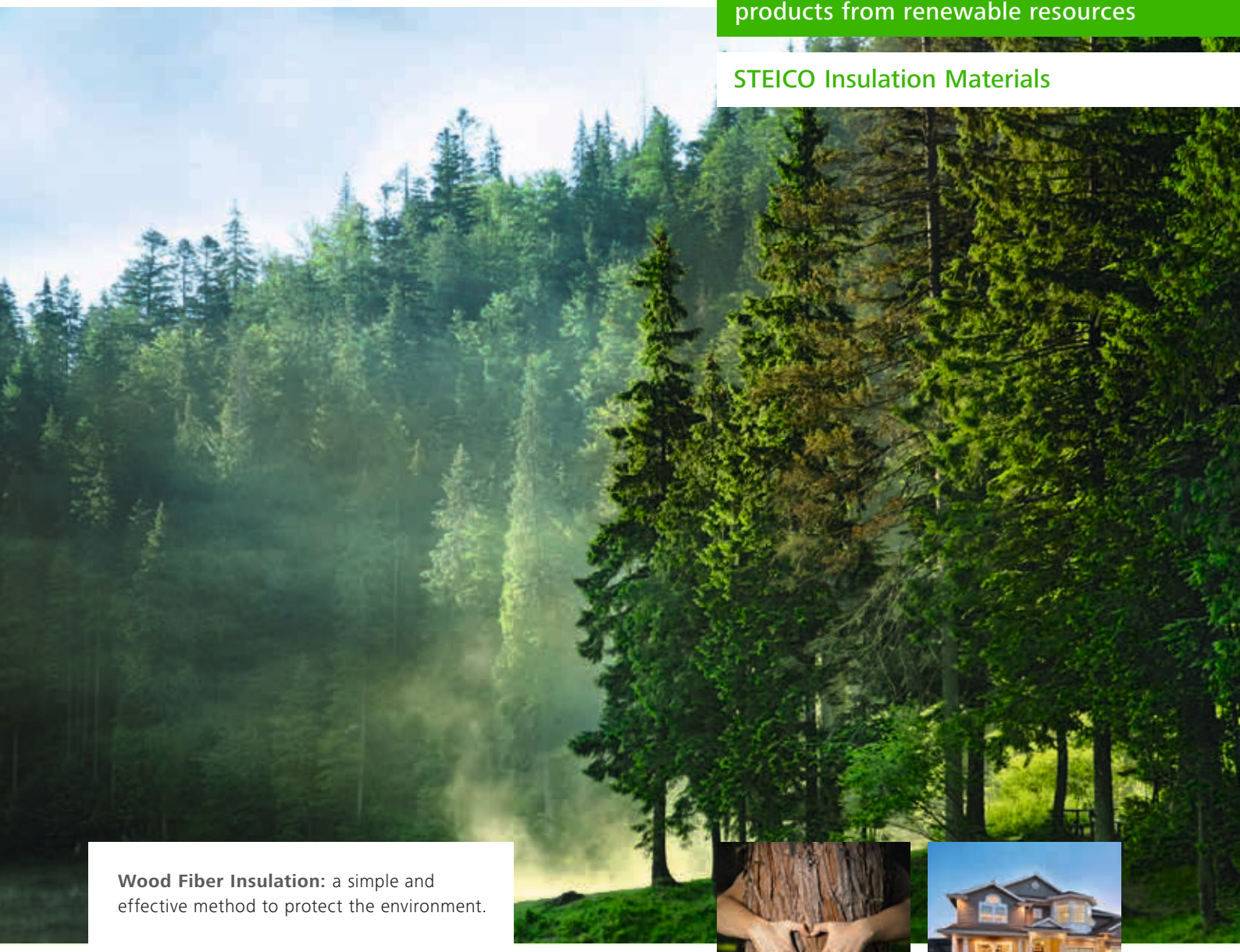
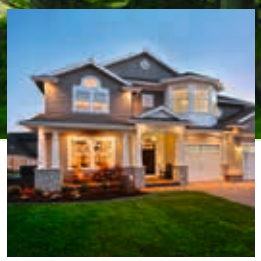
# Sustainable Solutions
# **for Low Carbon Structures**

**Environmentally friendly building products from renewable resources**

STEICO Insulation Materials



**Wood Fiber Insulation:** a simple and effective method to protect the environment.

STEICO
engineered by nature

# Climate change affects us all.

## STEICO Insulation - Saving Energy.... Saving the Planet

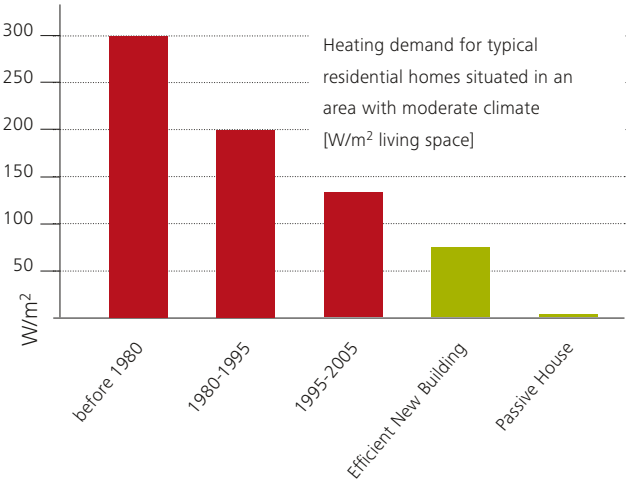
Since the beginning of industrialization, the primary energy sources have mainly consisted of fossil energy like coal and oil. The massive quantities of $CO_2$ released by these sources contributes to global warming and climate change. STEICO insulation protects the climate, increases the comfort of the structure and helps save energy.

Housing is responsible for around 30 % of worldwide $CO_2$ emissions. The heating and cooling of buildings is a major share, in particular, if the energy source depends on fossil fuels or (conventionally produced) electricity.

Insulating buildings is the most efficient way to drastically reduce energy consumption. Compared to older structures, modern buildings consume a mere fraction of energy consumed. Renovating the older structures with wood fiber insulation can greatly reduce energy usage.

Innovative STEICO wood fiber insulation materials offer an easy and sustainable way to reach energy efficiency – even up to the passive house standard where conventional heating and cooling systems are no longer needed.

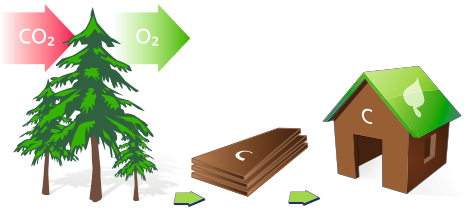
**Heating demand of residential buildings**




**STEICO insulation protects the climate and saves precious energy.**

## From tree to insulation

STEICO insulation is made from natural wood. Trees absorb carbon dioxide ($CO_2$) during photosynthesis and, in the process, $CO_2$ is split into carbon (C) and oxygen ($O_2$). The oxygen is released in the atmosphere while the carbon stays in the wood. The wood used in STEICO insulation material won't release the stored carbon back into the atmosphere during the entire lifetime of the building. STEICO only uses wood from sustainably managed forests. Sustainable forestry increases $CO_2$ absorption as young trees absorb more carbon dioxide than older trees.



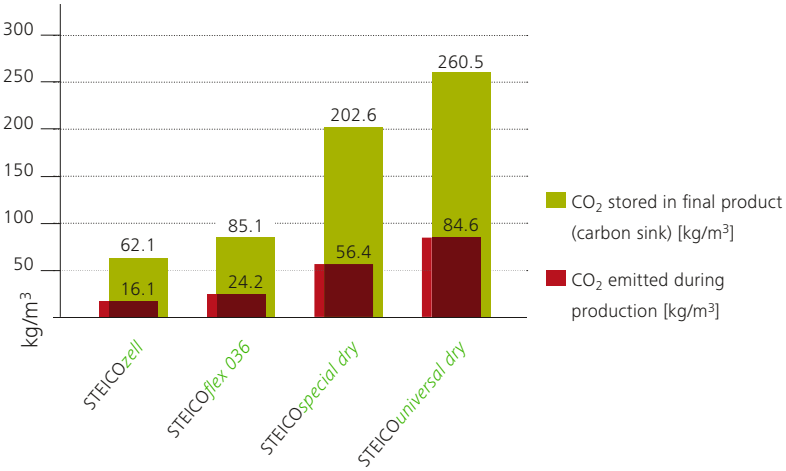

One ton of STEICO insulation material removes one ton of $CO_2$ from the atmosphere.

## Effective reduction of carbon footprint

The $CO_2$ emitted during the production of our insulation materials is by far compensated by the $CO_2$ stored in our products. The chart below shows the ratio of $CO_2$ emitted compared to $CO_2$ stored, based on figures from 2018. From 2020 on STEICO will only use $CO_2$-neutral biomass for its production in order to reduce even more its ecological footprint.

The wood used in STEICO products come form sustainably managed forests, certified by the FSC®.

**Carbon sink of STEICO insulation materials**

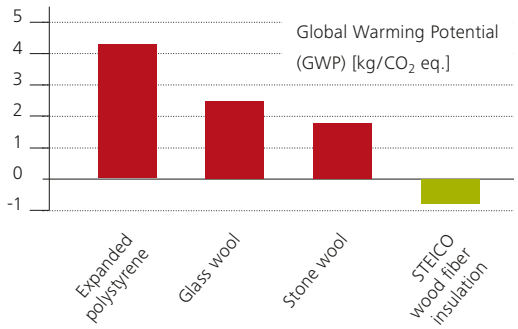



**Positive difference**

STEICO products contain more than twice the amount of $CO_2$ that was used for their production.

The only insulation with a negative Global Warming Potential (GWP). Compared to conventional insulation products, wood fiber insulation can help reduce the carbon in the atmosphere rather than contributing to it.

**Global warming potential of different insulation materials**





**Insulation against climate change**

Conventional insulation systems require a lot of fossil energy for their production and thus have a high Global Warming Potential (GWP).

**Thanks to carbon sequestration, STEICO wood fiber insulation has a negative GWP.**

# STEICO product range

STEICO product range offers ecological solutions for every application – in roofs, walls and ceilings.
All products are made from natural wood and contribute to a healthy indoor climate.

## STEICO *flex 036*

Flexible thermal insulation from wood

- Lowest thermal conductivity of any wood based flexible insulation products
- New fiber structure improves robustness and workability
- Friction fits to adjoining components

**Packaging STEICO*flex 036***

| Thickness [in] | R-Value | US Perm rating |
|---|---|---|
| 1 5/8 | R 6.7 | 58.3 |
| 2 | R 8 | 46.6 |
| 2 3/8 | R 9.5 | 38.9 |
| 3 1/8 | R 12.5 | 29.1 |
| 3 7/8 | R 15.5 | 23.3 |
| 4 3/4 | R 19 | 19.4 |
| 5 1/2 | R 22 | 16.7 |
| 6 1/4 | R 25 | 14.6 |
| 7 1/8 | R 28.5 | 13.0 |
| 7 7/8 | R 31.5 | 11.7 |
| 8 5/8 | R 34.5 | 10.6 |
| 9 1/2 | R 38 | 9.7 |

Dimensions from 1.8-10.2 ft on request.

## STEICO *zell*

Air injected insulation


- Joint free insulation
- Very good thermal insulation and thermal storage capacity
- Excellent summer heat protection

**Packaging STEICO*zell***

| Thickness [in] | R-Value | US Perm rating |
|---|---|---|
| 4 | R 15 | 23.3 |
| 6 | R 22 | 15.5 |
| 8 | R 30 | 11.7 |

## STEICO *universal dry*

External insulation boards

- Available in thicknesses up to 3 7/8 in
- High specification lightweight homogenous board
- Excellent insulation qualities

**Packaging STEICO*universal dry***

| Thickness [in] | R-Value | US Perm rating |
|---|---|---|
| 1 3/8 | R 4 | 33.3 |
| 1 9/16 | R 4.74 | 29.1 |
| 2 3/8 | R 7.1 | 19.4 |
| 3 1/8 | R 9.45 | 14.6 |
| 3 7/8 | R 11.82 | 11.7 |

## STEICO *special dry*

Insulation board for high R-value walls and roofs

- Applied over the rafters or studs to improve insulation values
- 3 fold functionality; insulation, wind tightness and weatherproofing
- High 'Summer Heat' protection

**Packaging STEICO*special dry***

| Thickness [in] | R-Value | US Perm rating |
|---|---|---|
| 4 3/4 | R 14.25 | 9.7 |
| 5 1/2 | R 16.5 | 8.3 |
| 6 1/4 | R 18.75 | 7.3 |
| 7 1/8 | R 21.4 | 6.5 |
| 7 7/8 | R 23.6 | 5.8 |