MORE FROM WOOD.

EGGER

ENVIRONMENT & SUSTAINABILITY AT **EGGER**

EGGER **ENVIRONMENTAL PRODUCT DECLARATIONS** (EPDs) AS A FOUNDATION FOR SUSTAINABLE CONSTRUCTION

www.egger.com/environment

ENVIRONMENT AND SUSTAINABILITY AS CENTRAL COMPONENTS OF THE EGGER MISSION STATEMENT

The threat from global warming significantly determines our actions today and the quality of our living space in the future. The reduction of greenhouse gases in the earth's atmosphere makes a substantial contribution to a sustainable environment. It is well recognised that carbon dioxide (CO_2) causes temperatures to increase on our planet with, as yet, unforeseeable negative consequences for human life and our living environment. Wood based materials offer substantial environmental advantages, which we would like to make use of:

They are "carbon neutral" because they bind CO_2 through photosynthesis. Through the material and thermal utilisation of wood in a closed cycle we help reduce the damaging effects of CO_2 in the environment. We are the first wood materials manufacturer to have independent tests confirming the potential of our wood based solutions, the results of which are shown in our environmental product declarations (EPDs).

» THE SUSTAINABLE UTILISATION OF RAW MATERIALS ENJOYS THE HIGHEST PRIORITY AT EGGER AND IS FIRMLY ANCHORED IN OUR CORPORATE MISSION STATEMENT. THAT IS WHY WE HAVE FULLY INTEGRATED LOCATIONS AND MAKE MORE FROM WOOD. «

DR. MARTIN STEINWENDER
DIRECTOR COMPETENCE CENTRE, RESPONSIBLE FOR THE ENVIRONMENTAL CERTIFICATION OF THE EGGER GROUP

WHAT ARE ENVIRONMENTAL PRODUCT DECLARATIONS (EPDs)?

EPDs (Environmental Product Declarations) contain all the environmental information, product-related information and test reports about a product in a central document. This means that the product is extensively described and the manufacturing process detailed. On this basis calculations regarding the products' environmental relevance are provided. This accounts for the environmental influences of the product – in the phases from its manufacture to its actual use, through to its waste disposal. An independent committee of experts verifies and confirms the data.

THE MOST IMPORTANT PERFORMANCE FIGURES FOR SUSTAINABLE PRODUCTS

The advantages of wood based materials in relation to climate protection are provided through two performance figures: in the fossil primary energy and the greenhouse potential. The fossil primary energy figure represents the non-renewable proportion of the energy that is required for the manufacture of wood based panels (such as, for example, the use of crude oil, natural gas or coal). Utilising wood based materials initially for their application as products and eventually for thermal usage can substantially reduce the use of fossil fuels and by doing so we can help protect the environment. The greenhouse potential represents the measure of damage to the climate that comes from the entire life-cycle of the product. Our products bind more CO_2 than is released during their manufacture and therefore they make a positive contribution to the environment.

THE CERTIFICATION OF BUILDINGS

BUILDINGS ARE TESTED AND CERTIFIED FOR THEIR EFFECT ON THE ENVIRONMENT

The certification of buildings according to their sustainability makes a substantial contribution towards environmental protection. It subsequently becomes transparent what influences the construction products used and the methods of construction have on the environment. Apart from existing systems of building certification (such as for example HQE, LEED, Breeam, DGNB), work is being undertaken on a European level regarding unified guidelines and standards for the evaluation of environmental influences of buildings over their entire life-cycle. Through our environmental product declarations, which have been assessed by independent experts, we can help with the certification of buildings because we provide the necessary information. Architects and specifiers can see at first glance what effects our products have on the environment and what characteristics distinguish them.

THE PATH TO BUILDING CERTIFICATION

The environmental impact of buildings and the associated climate-damaging or climate-relieving effect is currently determined via central databases. These contain data about the individual construction materials and construction products. However the databases often only consist of sector-wide average values and are, therefore, not specific to the manufacturer. It is the aspiration of EGGER to determine the specific environmental data of our own manufacturing and logistics processes, as well as the respectively environmentally relevant product characteristics and to make them available in this database. Through this we ensure more transparency and facilitate a more precise evaluation of the environmental relevance of buildings. Our environmental product declarations help architects, specifiers and contractors during the planning, execution and certification of buildings.

THE PROCEDURE

Initially the manufacturer has their products tested according to the granting guidelines of an accredited EPD program holder and creates an ecological balance sheet according to ISO 14040/14044.

The environmental product declarations developed in this way are verified and confirmed through an independent expert commissioned by the Institute for Construction and Environment e.V. and are incorporated as an environmental product declaration according to ISO 14025 (Type III environmental declaration) into the database for specifiers and architects. For the certification of buildings, only the specific data is included that originates from the manufacturer, which leads to a more precise evaluation of the environmental relevance of individual buildings.

OSB-Platten EUROSTRAND®

Auswertegröße	Einheit pro m²	Σ (Produktion + End of Life)	Produktion	End of Life
Primärenergie, nicht erneuerbar	[MJ]	-7.651	4.109	-11.760
Primärenergie, erneuerbar	[MJ]	12.564	12.701	-137,6
Treibhauspotenzial (GWP 100 Jahre)	[kg CO_2-Äqv.]	-537,9	-864,1	326,2
Ozonabbaupotenzial (ODP)	[kg R11-Äqv.]	-7,59E-06	2,13E-05	-2,89E-05
Versauerungspotenzial(AP)	[kg SO_2-Äqv.]	1,10E+00	9,82E-01	1,23E-01
Eutrophierungspotenzial (EP)	[kg Phosphat-Äqv.]	1,80E-01	1,62E-01	1,83E-02
Photochem. Oxidantienbildungs-potenzial (POCP)	[kg Ethen-Äqv.]	9,59E-02	1,32E-01	-3,62E-02

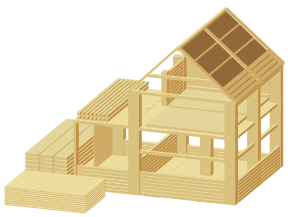
Institut Bauen und Umwelt e.V.

EPDs according to DIN ISO 14025 (Type III environmental declarations)

Central Database (Ökobau.dat)

for specifiers and architects

Further information at www.nachhaltigesbauen.de



Building certification

EPDs CONFIRM THAT WOOD BASED SOLUTIONS FROM EGGER ARE ENVIRONMENTALLY POSITIVE

EUROSTRAND® OSB

Through an optimised manufacturing process and formaldehyde-free bonding, EUROSTRAND® OSB boards are particularly friendly to the environment. In comparison to average sector data of the same product from other manufacturers they have distinct environmental advantages. As stated in the environmental product declaration from EGGER, during their life-cycle our OSB boards bind 864 kg CO_2 per cubic metre. The energy utilisation at the end of the life-cycle is CO_2 neutral and supplies, per cubic metre, nearly three times more renewable primary energy as compared to non-renewable energy used during the manufacturing process.

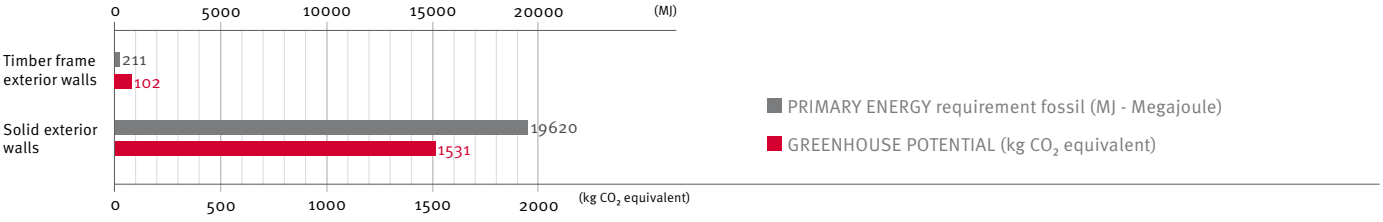
IN THE ASSEMBLY HALL OF THE PILATUS AIRCRAFT LTD. 490 M³ OF EUROSTRAND® OSB AND EGGER DHF WERE INSTALLED. THROUGH THIS WE SAVE THE ENVIRONMENT 357 TONS OF CO_2.

The assembly hall of the Pilatus Aircraft Ltd. in Stans is almost completely constructed of wood. The excellent static and structural-physical characteristics were decisive for the choice of EUROSTRAND® OSB 4 TOP as planking for the load bearing structure.

TIMBER FRAMED EXTERIOR WALLS ARE ENVIRONMENTALLY FRIENDLY

The greenhouse potential of the timber framed exterior wall is a mere 7 % (approx.) of the value for the solid exterior wall (timber framework in comparison to cavity brickwork or aerated concrete). Therefore, with the installation of wood you can make an environmentally friendly choice.

For a single family detached house with **108 m²** living space over an observation period of 100 years the following data results:



Source: Öko-Pot Study 2008, page 27 f.

The decision for exterior walls made from timber save the environment ...

... a consumption of PRIMARY ENERGY of  **3,819 litres** of light heating oil

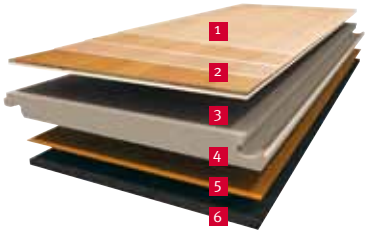
... or the GREENHOUSE EFFECT of  **6.7 years** of driving a car *

* Calculated according to the planned European standard value of 130 g CO_2/km and the average annual mileage in Germany of 13,400 km per year.

DIRECT PRINTED LAMINATE FLOORING (DPR®) WITH ENVIRONMENTAL ADVANTAGES

DIRECT PRINTED LAMINATE FLOORING (DPR®)

Direct printed laminate flooring from EGGER combines the highest quality with environmentally friendly characteristics. The revolutionary direct printing process DPR®, where solvent-free and cured lacquer is directly applied to the HDF board, not only optimises the production process, but also reduces energy consumption and saves raw materials. In our environmental product declarations it is made clear that flooring from EGGER reduces CO_2 and thereby preserves the environment.



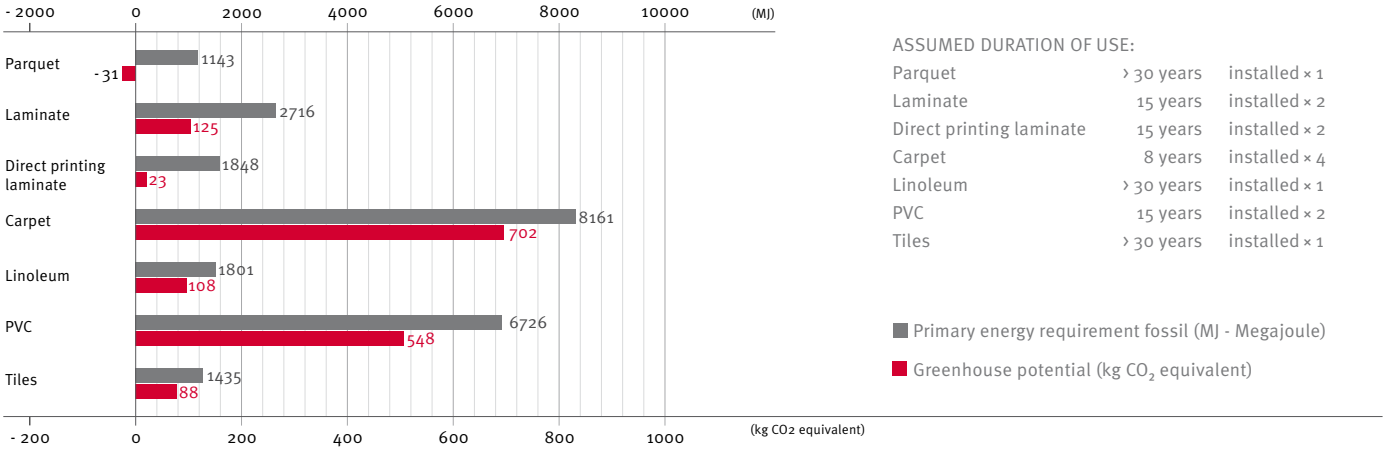
1. Hard-wearing UV surface finish
2. Decor print
3. Hydro basic priming layer
4. Special HDF core board, consisting of natural wood fibre
5. Counter-balancing coating
6. silenzio® (sound absorption) underlay layer

LAMINATE FLOORING HAS A POSITIVE EFFECT ON THE ENVIRONMENT.

LAMINATE FLOORING HELPS CONSERVE THE ENVIRONMENT

Flooring made from wood has a lower impact on the environment when compared to the use of other flooring types like for example carpet or PVC. At EGGER only certified woods originating from sustainable forestry are used for the manufacture of laminate flooring.

For a single family detached house with **97 m²** of installed flooring surface area for an observation period of 25 years the following data results:



Source: Öko-Pot Study 2008, page 27 f.

ASSUMED DURATION OF USE:

Parquet	› 30 years	installed × 1
Laminate	15 years	installed × 2
Direct printing laminate	15 years	installed × 2
Carpet	8 years	installed × 4
Linoleum	› 30 years	installed × 1
PVC	15 years	installed × 2
Tiles	› 30 years	installed × 1

Primary energy requirement fossil (MJ - Megajoule)

Greenhouse potential (kg CO_2 equivalent)

The decision for flooring made from wood (mixture of parquet and laminate) saves the environment ...

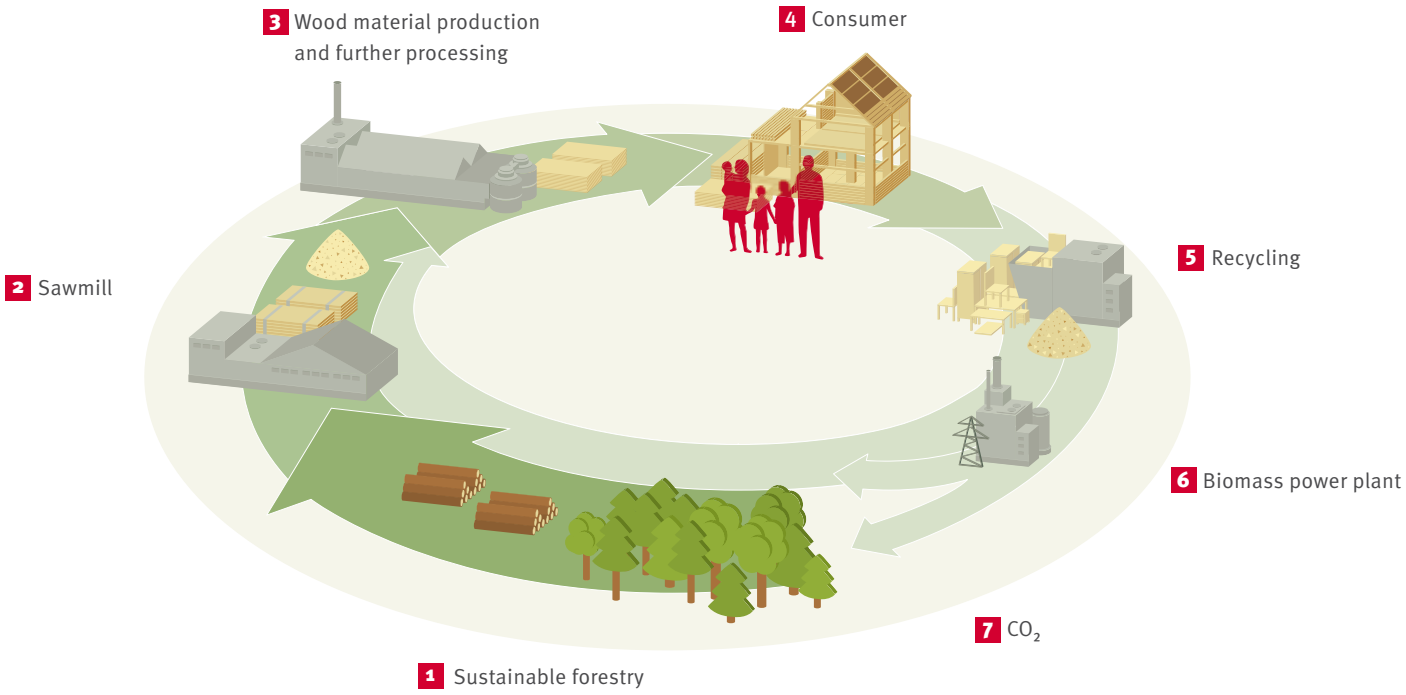
... a consumption of PRIMARY ENERGY of **477 litres** of light heating oil

... or the GREENHOUSE EFFECT of **1.3 years** of driving a car *

* Calculated according to the planned European standard value of 130 g CO_2/km and the average annual mileage in Germany of 13,400 km per year.

FROM THE TREE TO THE PRODUCT – A CLOSED CYCLE

The closed cycle is at the core of our activity. In our mission statement the sustainable use of raw materials is given the highest priority. EGGER therefore has integrated locations where we continue investing in the extension of our plants. At our first fully integrated location in Brilon (DE) wood is initially used as a raw material. This extends from the production of solid timber in the sawmill, through to the production of wood based panels such as laminate flooring. Wood residues and recycled wood that cannot be used in production is utilised as thermal fuel in our biomass power plants. Through this EGGER can justifiably claim to make "More from wood" and we substantiate this through our eight EPDs for the products EUROSTRAND® OSB boards, DHF and DFF wood fibre boards, laminate flooring, direct printing laminate flooring (DPR®), EUROSPAN® raw chipboard and EURODEKOR® laminated chipboard, MDF and HDF boards, EUROLIGHT® lightweight boards and laminate materials.
We have incorporated all the processes of our philosophy into our ecological cycle.



1. ENVIRONMENTAL PROTECTION STARTS WITH SUSTAINABLE FORESTRY

Sustainable forestry has highest priority at EGGER. For the production of wood based solutions EGGER exclusively uses wood from forest thinning and residual wood in selected quality from sawmills, as well as suitable recycled wood. We act responsibly with regard to the forests and the environment and within the scope of the Chain of Custody procedures are certified according to PEFC and/or FSC, depending on the availability of the timber.

1m³ (or 450 kg) of spruce wood binds 825 kg CO_2

1m³ (35.3 cubic feet) of OSB board binds 864 kg (1,905 pounds) of CO_2

1m³ (35.3 cubic feet) of raw chipboard binds 745 kg (1,642 pounds) of CO_2

1m³ (35.3 cubic feet) of MDF board binds 505 kg (1,113 pounds) of CO_2

(calculated from EGGER EPDs 02/2010, on a base of GWP 100-Production)

2. THE SAWMILL: VALUE CREATION CHAIN AND RAW MATERIAL SOURCE FOR INTEGRATED LOCATIONS

In our sawmill in Brilon (DE), 800,000 solid cubic metres of round spruce timber from sustainable forestry is cut annually. The proportion of sawmill side-products created through the processing of the round timber such as sawdust, wood chips and planing chips is approximately 45 %. We use these in the immediately adjacent wood based panels production plant for the production of chipboard and MDF boards. We can dry more than three quarters of our cut timber in our own drying chambers and directly process them further in our own planing plant.

View of the roundwood timber yard of the sawmill belonging to the chipboard and MDF plant in Brilon (DE).

3. PRODUCT INNOVATIONS MOVE US FORWARD

Our youngest innovation, the lightweight EUROLIGHT® board, was developed by us according to the honeycomb model provided by nature – stable, light and environmentally friendly.

Research and development have great significance at EGGER. Through a systematic innovations process we want to optimise the utility for customers and act with foresight in order to address our customers requirements. This leads to groundbreaking developments such as the laminate flooring DPR®, where an innovative direct printing process reduces CO_2 as the impregnation and lamination process can be dispensed with. Another innovation is the EUROLIGHT® lightweight board, the inside of which consists of a cardboard honeycomb core which is then enclosed by two thin chipboard layers. This construction provides great stability whilst benefiting from being low weight, along with the further benefit that it saves raw materials. In this way we only consume a small amount of material and conserve the environment.

INNOVATION IS THE KEY FOR SUSTAINED SUCCESS. WE APPLY THE PRINCIPLE OF GUARANTEEING THE HIGHEST PRODUCT QUALITY THROUGH STATE-OF-THE-ART TECHNOLOGY AND ALWAYS ACTING IN AN ENVIRONMENTALLY CONSERVING WAY.

4. ON THE WAY TO THE CUSTOMER WE SAVE 17.9 MILL. TONS OF CO_2

At the right time at the right place – our logistics keeps EGGER on the move. So that our products reach the customers in an environmentally friendly way, nearly all EGGER plants have a railway connection. By transporting goods on the railways we can avoid 49,120 truck journeys every year and relieve the environment of pollutants and noise. In the last five years we have doubled our proportion of railway traffic and have saved 17.9 mill. tons of CO_2 emissions. For our project "EGGER - Logistics systems with high ecological acceptance" we have, amongst others, received the Austrian national award for transport logistics.

Container loading at our Wismar (DE) location. It is our target to transport as many goods on the railways as possible. At EGGER environmental conservation is a key business principle.

5. & 6. RECYCLING AND THERMAL UTILISATION OF TIMBER

Overall 20 % of our timber originates from recycled wood residues, although in some markets this is significantly higher. This in turn reduces CO_2 from the environment and conserves nature. We process recycled wood in our products, as well as thermally in our biomass power plants.
Those wood materials that accrue during production and which cannot be used materially are combusted in biomass power plants. The energy created through this is utilised for the drying of the cut timber and in the production of wood based solutions. In 2007 we integrated a biomass power plant within the scope of the development and extension of our plant in Hexham (UK). Additionally the locations Rion des Landes (FR), Rambervillers (FR), Brilon (DE), Wismar (DE) and Unterradlberg (AT) have biomass heating or respectively biomass power plants. In St. Johann in Tyrol (AT) an energy and environmental project was currently being implemented, which in 2008 was nominated for the European environmental innovations awards (EEP). Apart from the energy supply to the EGGER plant, a lot more than 300 households in the community in St. Johann in Tyrol are additionally supplied with district heating.

WISMAR (DE), since 1999, extension 2006.
Combustion heat generation: 80 MW
Steam generation capacity: 101 t/h

BRILON (DE), since 1991, extensions 1993 and 1996.
Combustion heat generation: 150 MW
Steam generation capacity: 165 t/h

7. WE SAVE CO_2

Through our closed cycle during the manufacture of wood materials we save the environment from the damaging effects of CO_2 on many levels and make "More from Wood". Through the processing of wood in EGGER products, annually **3.6 mill. tons of CO_2*** are materially stored; this corresponds to the CO_2 emission from **800,000 households****. Through the use of recycled wood residues we save the environment **1.2 mill. tons CO_2** per year, and through our biomass power plants we achieve a **CO_2 saving of 640,000 tons** in comparison to the combustion of natural gas.

* Established from the greenhouse potential of the EGGER EPDs (in kg CO_2 equivalent, on the basis of the production figures 2007/08)

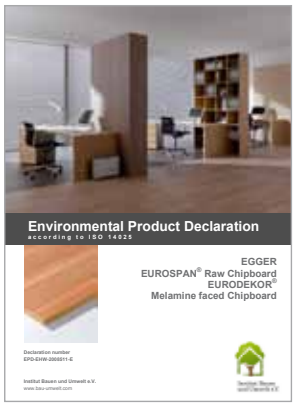
** An average European household with three people uses approximately 4.5 tons of CO_2 per year, source: according to EUROSTAT 08/2008


MORE
FROM
WOOD.

DO YOU HAVE ANY QUESTIONS?

For questions regarding our environmental product declarations (EPDs) you can reach us via:

Wismar T +49 3841 301-21250



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