Admonter
NATURE´S FAVOURITE DESIGNER

Ecology and Sustainability Data | Facts

Sustainable products from Styria

Introduction

Why sustainable construction

Building construction and renovation, as well as the manufacture of the products needed for this require resources which are in limited supply. Sustainable construction is one way to minimise the consumption of resources. The aim is to take into account the environmental properties of the materials used throughout the entire lifecycle of a building, from construction to recycling.

Why EPD

An Environmental Product Declaration (EPD) is aimed at assisting builders, architects and processors to compare the environmental impact of different products with each other. An EPD is a neutral tool for communicating the environmental properties of products – independently audited according to standardised rules.

Why Admonter

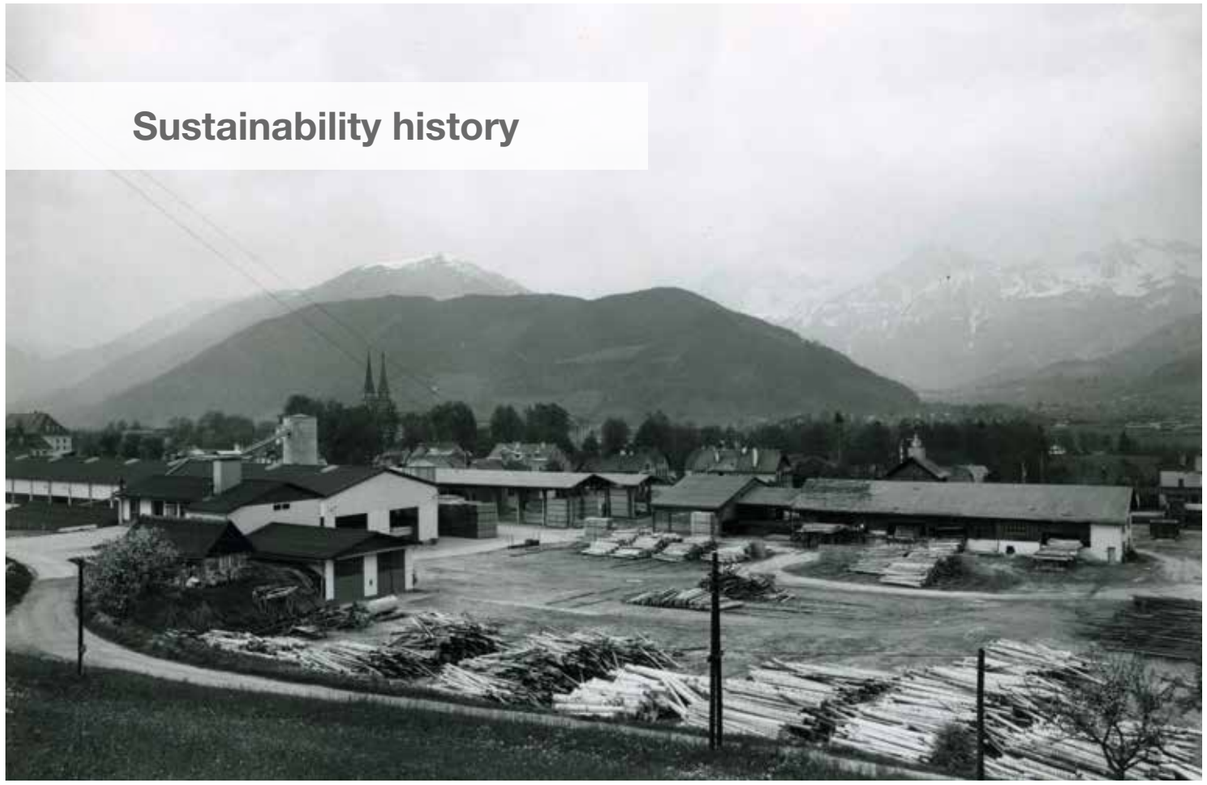
In addition to in-house quality control, the Admonter products are also regularly checked by accredited institutions. Apart from all the structural standards, they also meet the highest environmental and health requirements.

Other aspects that speak for Admonter

- Closeness to the natural point of origin
- Wood from sustainable forestry
- Manually controlled quality work
- Timeless design that creates atmosphere everywhere

Nature concludes its supply agreements only with those who appreciate, cherish and nurture.

Table of content



Sustainability history

Mission statement of Admonter Holzindustrie AG

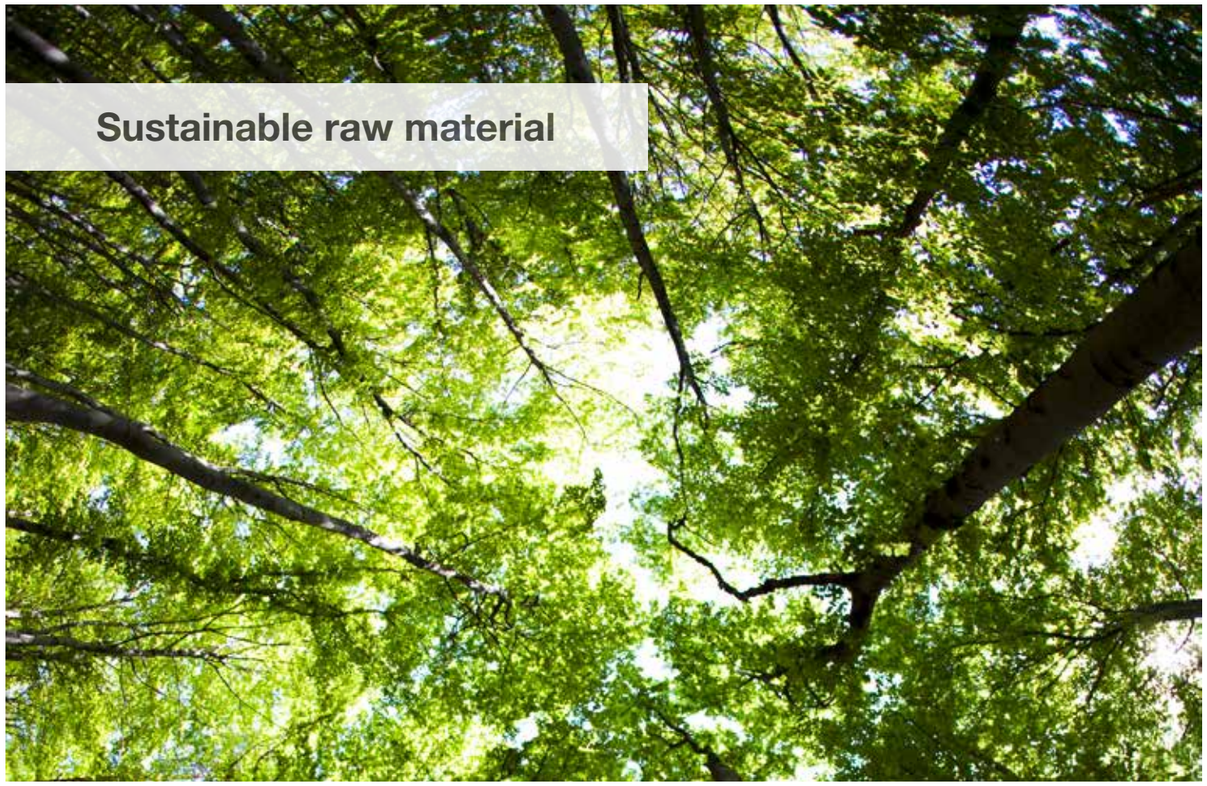
- We are proud of our **1,000 years of socio-Christian tradition.** We preserve it. It accompanies us on the road to a modern society.
- We are aware of our **responsibility** towards our employees and our partners. We treat them with openness and honesty.
- Building long-term relationships in which trust and equality are the pillars in dealing with business partners is a cornerstone of our company. **Customer satisfaction is our ultimate goal!**
- **Naturalness** and **sustainability** are preconditions for the selection of our raw materials from which we produce the **highest quality products.**

Wood has been machined and processed at the Admont site for several centuries.

Admonter Holzindustrie now employs 270 employees and, with its **Admonter FLOORs, ELEMENTs, STAIRs, DOORs and ACOUSTICs,** known far beyond the borders of Austria.

Based on this successful business philosophy, not only the **design** but also the most **environmentally friendly and sustainable production** are the drivers behind the **consistent quality and exclusive production in Admont.**

Start of **industrial regional wood processing** in Admont	1874	
	1923	**Sawmill** built at current location
Establishment of Admonter Holzindustrie AG	1972 -	
	1979	Development of the **natural wood panel**
Briquetting for recovery of wood by-products	1985	
	1987	Birth of the first **natural wood floor**
Two biomass boilers with a total of 7 MW district heating network taken into operation	1998	
	1999	**1. electricity self-generation** ORC with 400 kW
Start of own **apprenticeship training**	2001	
	2003	Admonter is **PEFC-certified**
Final **end of fossil gas firing**	2004	
	2006	**expanding the biomass boilers** by 5 MW
2. electr. self-generation ORC with 800 kW	2007	
	2008	**Construction of high-efficiency exhaust filter system** for all biomass boilers
1. Admonter LCA cradle to factory gate	2009	
	2013	Commissioning of a 650 kWp **photovoltaic** plant on the factory building roofs
Expansion of the rail loading facility	2015	
	2016	**EPD** of all products manufactured in **Admont**
Austrian Ecolabel	2017	



Sustainable raw material

SUSTAINABILITY CAN BE DEMONSTRATED.

The **“Programme for the Endorsement of Forest Certification Schemes” (PEFC)** is proof that wood and the products produced from it come from sustainably managed forests.

It is **one of the largest wood certification systems in the world** and ensures that our forests with its diverse functions are preserved for future generations.

The independent control of the entire production chain – from the forest to the final product – guarantees the **seamless traceability of the wood flow** taking economic, ecological and social aspects into account.[3]

Choosing Admonter is a choice for nature.

In every respect.

The abundant forests in the Admont area, and in Austria in general, make this easier. The raw wood reaches us over **very short supply routes.**

A basic level of sustainability is already ensured by the **Austrian Forest Act**[1] and **FLEGT**[2]**;** moreover, **PEFC certification** guarantees that our wood comes from forests managed by sustainable forestry methods.

But that‘s not all. Instead of rare tropical timbers, our policy has always been to use **native wood species.**

[1] www.ris.bka.gv.at, Austrian Forest Act, Federal Law Gazette of 11/07/2016
[2] FLEGT (EU Regulation 995/2010
[3] www.pefc.at

Cascading use

Apart from the origin of the raw material from sustainably managed forests, the **sustainable use of the material** plays an equally important role at Admonter. The use of a raw material over several stages is known as the **cascading** or **multiple use.** It starts with a product that has the **highest added value,** ecologically creates the greatest benefit and does not exclude **multiple use.**

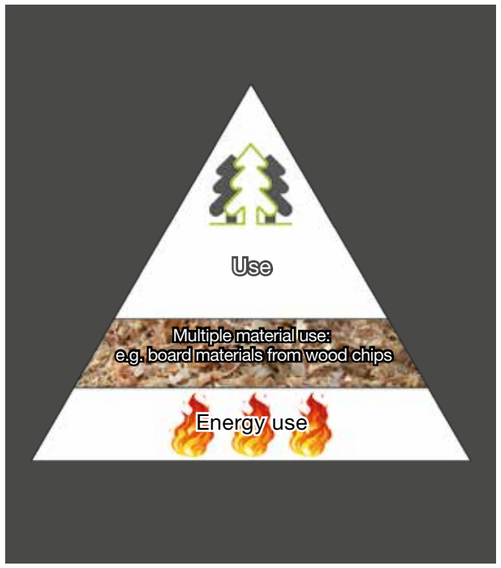
The next steps include, ideally, multiple material use with decreasing added value, and a finally the use of the raw material for **energy generation** or composting.4 Admonter is aware of its responsibility as it is usually at the beginning of the multiple use in the production of multilayer products from solid wood – it must be possible to reuse the material of all products after their service life. **For the purposes of subsequent cascading use, the products must be free from pollutants.** If a combination of material is required due to certain product properties, it must be easily recyclable. The reutilisation of waste wood as a raw material for high-quality design products is a good example, as higher product value is created as part of the material use – keyword **Upcycling.**

Consistent control measures by our suppliers, monitoring as part of our in-house quality assurance and regular external inspections by independent institutes ensure that only uncontaminated waste wood will be further recycled.

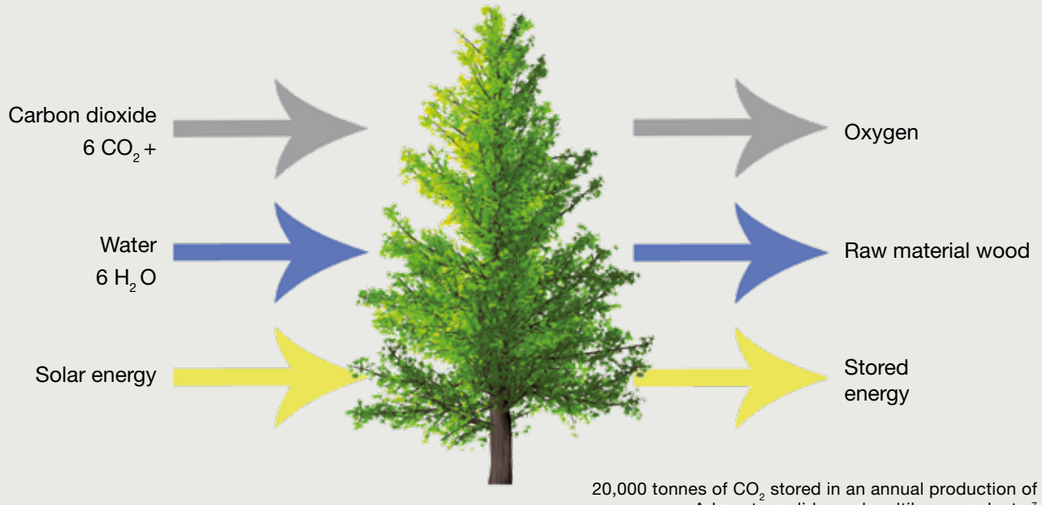
The cascading use of wood as raw material and the products made from it allows it be used in the economic system for as long as possible. This enables **environmental benefits** such as:

- A lower burden on the environment
- Greenhouse gas savings
- Higher added value[4]

[4] Austrian Federal Environmental Agency, Publication Efficient use of wood: cascade versus incineration 2014



Sustainable energy concept



20,000 tonnes of CO_2 stored in an annual production of Admonter solid wood multilayer products.[7]

Economise with energy

Wood residue and waste wood from the production process that cannot be used further as material are used to **generate energy in the company's in-house heating plant.**
The energy from the Admonter heating plant supplies the entire office and factory premises of Admonter Holzindustrie including the necessary **process heat** for thermal chambers, drying chambers and press lines. Through the connection to the local district heating network, the **entire Admont Benedictine monastery** (www.stiftadmont.at) and about **200 households** are supplied.

Recycling management

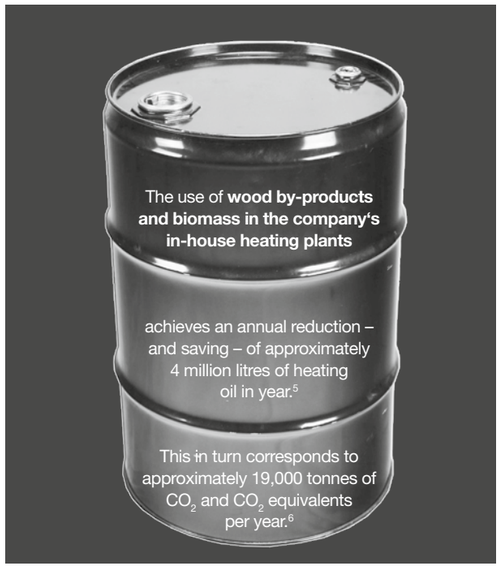
All unavoidable residues and packaging materials, which are generated during operation, are stored at central collection sites and recycled by authorised companies. Admonter has placed the emphasis on waste recovery and waste prevention in recent years.

- Continuous staff training on recycling management
- Raising employee awareness and recycling ethics
- Changeover of glue application technology – longer cleaning intervals and therefore lower water consumption
- Reduction of packaging material through internal reuse

Energy management

Optimisation of the compressed air and power supply, the construction of photovoltaic systems on the factory roofs or retrofitting the lighting to LED technology are just some of the energy-efficiency measures with which Admonter sets the trend for the future.

[5] Admonter-EPD in 2016; Austrian Federal Ministry of Agriculture, Forestry, Publication Wood Fuel 2016
[6] Climate and Energy Agency Baden-Württemberg CO_2 emission factors in accordance with IINAS Version 4.94
[7] Admonter EPD 2016 + conversion to molecular weight



Production

We offer our employees

- Attractive and secure **jobs**
- **Performance-related** salary
- A **pleasant working** environment
- **Optimum** workplace design
- **Needs-based, professional** and **personal** training

Job satisfaction in an innovative company and the positive product and brand image enhance the **high level of motivation** among our employees.

Internal communication optimally assists our employees in task completion and ensures that they are always up to date in terms of company objectives and development.

A basic tenet of our company philosophy is based on constant further development, increasing economic competitiveness in a structurally weak environment; this is the only way that allows the medium- and long-term security of the production site.

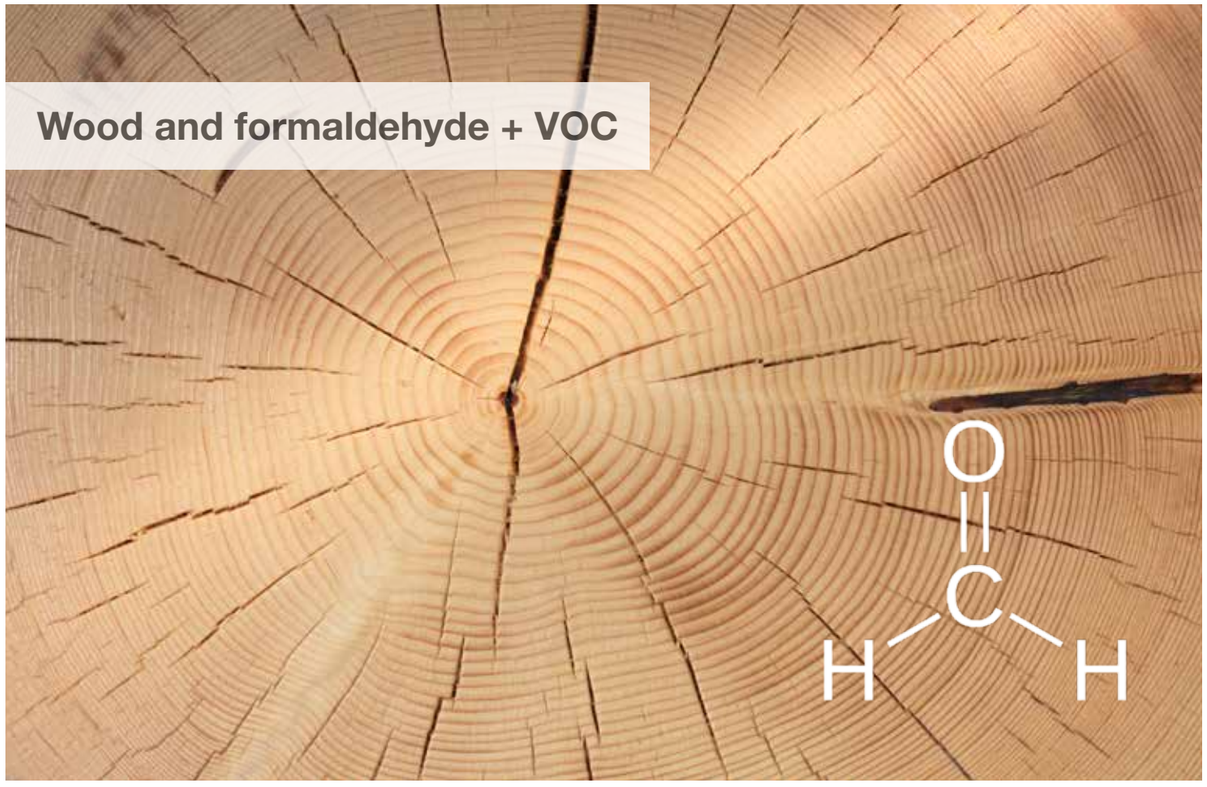
The development of **innovative products** combined with the simultaneous use of regional resources places the emphasis on being independent of non-European imports, which contributes to adding value to the region.

The high level of in-house working conditions, which is already prescribed by legislation, is not only maintained during the year but continuously increased through **teambuilding exercises,** regular medical care by an occupational health physician and incentives for performance

If one were to line up all the products produced in a year, it would stretch all the way from from Admont to the North Cape.

All the floorboards produced in one year would cover the entire length of the Danube to its mouth in the Black Sea.

All the natural wood panels produced in one year stacked would be almost twice as high as the Burj Khalifa, currently the tallest building in the world.



At the latitudes we live, we spend

90 per cent of our time indoors!

For this reason, indoor air exposed to the lowest possible emissions is an important **prerequisite for health and well-being.**[8]

The concentration levels of **volatile organic compounds (VOC)** accordingly contribute negatively to indoor air quality. As we are dealing with different materials with equally different effects on human health, the potential risk cannot be assessed cumulatively.

Possible indoor VOC sources can be **chemicals used in construction, furnishings and articles of daily use or cleaning products.**[9]

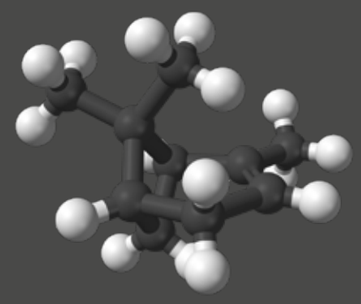
VOCs can also be of completely natural origin, wood and wood materials also contain them.

Without VOC, no wood smell

The health-friendly and mostly positively perceived substances in the wood are crucial to the **smell of wood.** They are also responsible for the characteristic and very pleasant smell of the **stone pine wood.** [10]

[8] Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication Directive UZ 56 Floor Coverings Version 3.0 2015
[9] Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication on Assessment of Indoor Air – volatile organic compounds – VOC 2012
[10] Institute of Environmental Medicine University Hospital Freiburg; Fraunhofer Institute for Wood Research, Publication Is wood a health-friendly building material 2010

„Stone pine scent“



Structural formula $C_{10}H_{16}$

There is currently no harmonised European limit values of the VOC emissions of indoor air. Besides some national voluntary tests, only a few countries have mandatory evaluation systems.

As of 201, furnishings and construction products therefore must be **classified and labelled** to indicate their VOC emission behaviour – in France, for example, before they are placed on the market.

All Admonter solid wood multilayer products fall well below the most stringent class **“A+”** (very low emission).[11]

Formaldehyde is one of the most volatile organic compounds. In concentrated form, formaldehyde is a colourless, pungent-smelling, gaseous substance at room temperature. It is contained in raw wood with a steady state concentration of less than 0.01 ppm.[12]

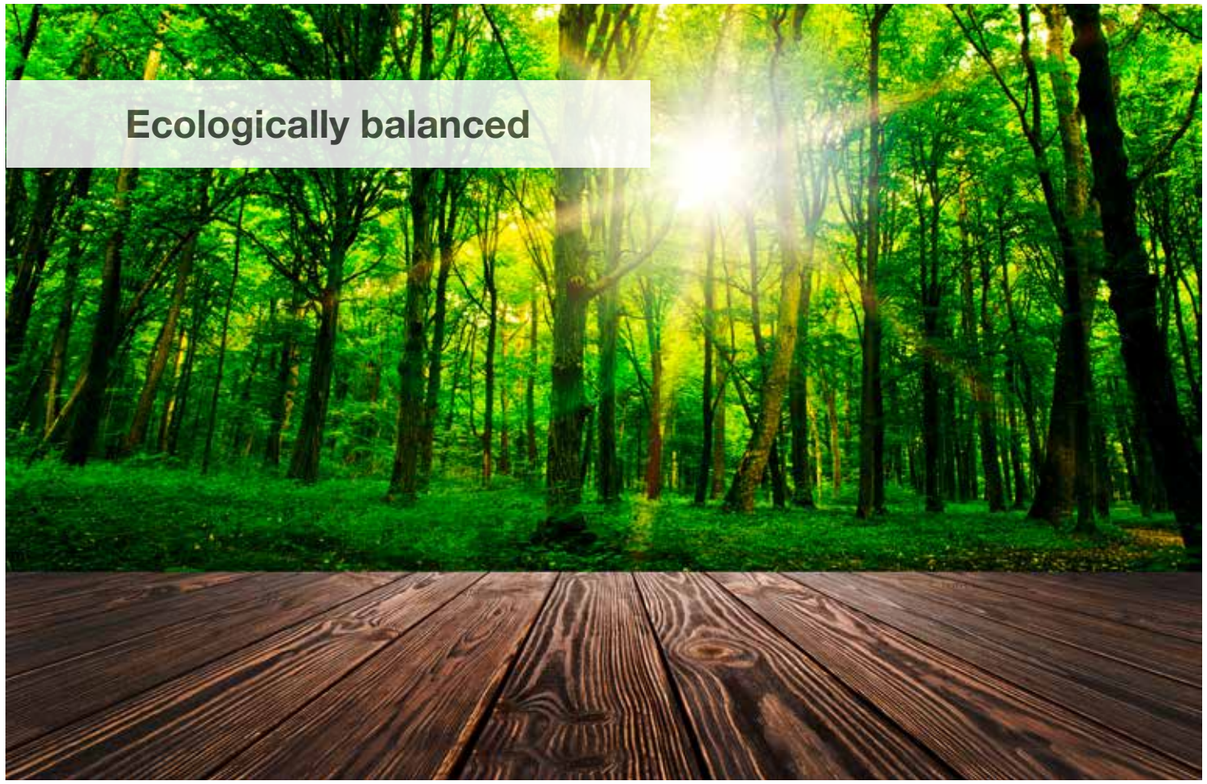
Admonter campaigns against trivialising the dangers of formaldehyde exposure; in addition to in-house monitoring, Admonter regularly undergoes ongoing external inspections.
All solid wood multilayer products measure several clicks **below** the limits of the currently most stringent European E1 formaldehyde class.

Some more sensitive testing methods are commonly applied on other continents, but Admonter meets or falls below these limits.

[11] eco Institute Cologne, Publication French VOC Regulation 2012
[12] Association of the German Wood Products Industry, Publication Building and Living with Wood 2013
[13] Test report HFA 566/2016

Overview of formaldehyde limit values

Emission class	Test method according to	Limit value
E1	EN 717-1	0,1ppm (0,124mg/m³)
	EN 717-2	3,5mg/m²h
E0	AS/NZS 4266.16	0,5mg/l
F****	JIS A 1460	0,3mg/l
Sauna suitability according to ÖNORM M 6219-1 2010	EN 717-2 (Tested at 90°C)	0,4mg/m²h
Steady state concentration of raw wood	0,01 ppm	
Admonter solid wood multilayer products[13]	0,01 ppm	



With a good conscience

The “Life Cycle Assessment” LCA is the compilation and assessment of the **input and output flows** and the **potential environmental impact** of a product in the **course of its life.** Factors such as resource consumption, global warming potential or energy content are represented by key figures.
The sum of the required resources and emissions (“LCI”) is converted into indicators of a comprehensive impact assessment.

The conducting of an **LCA study** regulate the ISO 14040 and ISO 14 044 series of standards.[14]
In an **LCA** the environmental relevance of the various **life stages** of the product or process are examined.

These life stages comprise the following areas

- Raw material extraction
- Production
- Processing
- Transport
- Consumption
- Reuse
- Waste (municipal waste disposal)
- Wastewater treatment
- Disposal

An LCA comprises three key components: **inventory, impact assessment** and **interpretation.**

The assessment area is divided into areas such as use of raw materials, energy use, emissions, water, waste generation and toxicological and ecological assessments of the emissions caused. The aim of the LCA is to **weigh up the environmental impact of products and processes.**[15]

[14] Admonter-EPD 2016

[15] EN ISO 14040 with system boundary “cradle to factory gate” Method: CML 2 baseline 2000 V2.1 + primary energy balance 02.12.04 / West Europe

Extract from the LCA according to ISO 14044		
Parameters	**Unit**	**Production (A1-A3)**
LCA environmental impact: 1 m² solid wood multilayer product		
Global warming potential	[kg CO_2-Äq.]	-6,45E+0
Depletion potential of the stratospheric ozone layer	[kg CFC11-Äq.]	1,05E-7
Acidification potential of soil and water	[kg SO_2-Äq.]	2,71E-2
Eutrophication potential	[kg $(PO_4)^3$-Äq.]	5,31E-3
Formation potential of tropospheric ozone	[kg Ethen-Äq.]	3,76E-3
Potential for the abiotic depletion of non-fossil resources	[kg Sb-Äq.]	5,02E-6
Potential for abiotic depletion of fossil fuels	[MJ]	7,94E+1
LCA of resource use: 1 m² solid wood multilayer product		
Renewable primary energy as an energy source	[MJ]	1,73E+3
Renewable primary energy for material use	[MJ]	1,34E+2
Total renewable primary energy	[MJ]	1,50E+3
Non-renewable primary energy as energy source	[MJ]	9,58E+1
Non-renewable primary energy for material use	[MJ]	5,45E+0
Total non-renewable primary energy	[MJ]	1,01E+2
Use of alternative materials	[kg]	0,00E+0
Renewable alternative fuels	[MJ]	0,00E+0
Non-renewable alternative fuels	[MJ]	0,00E+0
Use of freshwater resources	[m³]	1,34E+0

Apart from certifications and approvals, companies are free to draw up a so-called **“Environmental Product Declaration” (EPD).** The EPD is a neutral tool for **communicating the environmental properties of a product.** An EPD documents the environmental performance about the product life cycle **“ecological footprint” – based on a life cycle assessment (LCA).**

This allows architects, contractors and processors to compare different products and construction methods according to economic, environmental and socio-cultural criteria with each other. The high energy and material flows in building construction and renovation, as well as in the use phase, have a comprehensive assessment of the sustainability of buildings increasingly gaining in importance. Moreover, the aim is to look at the use of resources and energy consumption of all building products used in construction throughout their **entire life cycles** and make a comparison.

An environmental product declaration is checked by independent experts according to uniform rules issued by renowned programme operators and covers all key LCA figures that the conventional systems for **sustainable buildings certification** apply.[16]

The EPD thus constitutes the basis for all the necessary aspects for the global assessment of the sustainability of buildings.[17] Despite different program operators, regional dominance and partly different assessment approaches, these certification systems are aimed at weighting the broad scope of factors, beginning with production over use through to the so-called “end-of-life” and assemble them in a comparable assessment framework.

The established certification systems include, for example, the American Leadership in Energy and Environmental Design **(LEED),** the UK Building Research Establishment Environmental Assessment Method **(Breeam)** or the German Sustainable Building Council **(DGNB).** The LEED sustainability standard is an internationally comparable quality label for energy-efficient and environmentally responsible buildings, interiors and management concepts.

[16] In the EPD Admonter discloses the environmental performance of its products and so contributes to sustainable building and living. The German Institute for Building and Environment (IBU) is the programme operator of our EPD

[17] Institute for Building and Environment, Publication IBU Compendium Sustainable Building 2013

THIRD-PARTY VERIFIED
EPD
ISO 14025 and EN 15804
Institut Bauen und Umwelt e.V.

2016: **EPD of all products manufactured in Admont**
Environmental product declaration according to ISO 14025 and EN 15804 Admonter solid wood multilayer products Admonter Holzindustrie AG Declaration Number: EPD-STI-20160090-IBC1-DE
http://ibu-epd.com/mitglieder/ibu-mitglieder/admonter/

Austrian Ecolabel

The **Austrian Ecolabel** is a **state-issued quality label** identifying **environmentally friendly manufactured products.** Products **for use indoors** marked with the Ecolabel have **little** or **no pollutant levels** and make an important contribution to **ambient air quality.**[18]

Wood and wood products bearing the Ecolabel must meet the following criteria, among others:

- At least half of the processed raw materials must come from sustainably managed forests.

- The products may not contain environmentally hazardous or life-threatening ingredients. The strict limits for VOCs are complied with.[19]

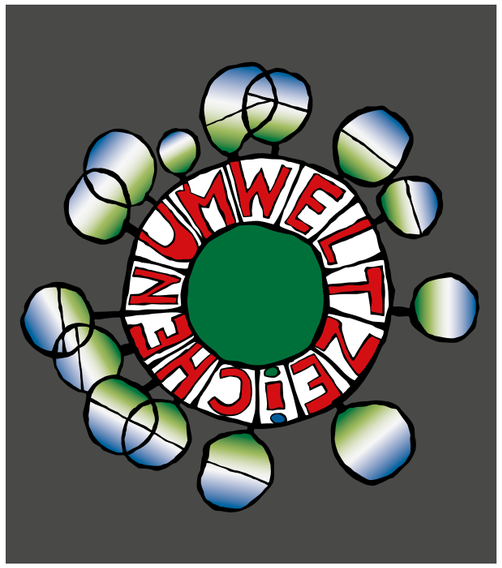
Due to their large-scale application, flooring has a significant influence on the quality of indoor air. The use of low-emission products is of great importance to avoid adverse health effects. Furthermore, it must be suitable for cascade use.[20]

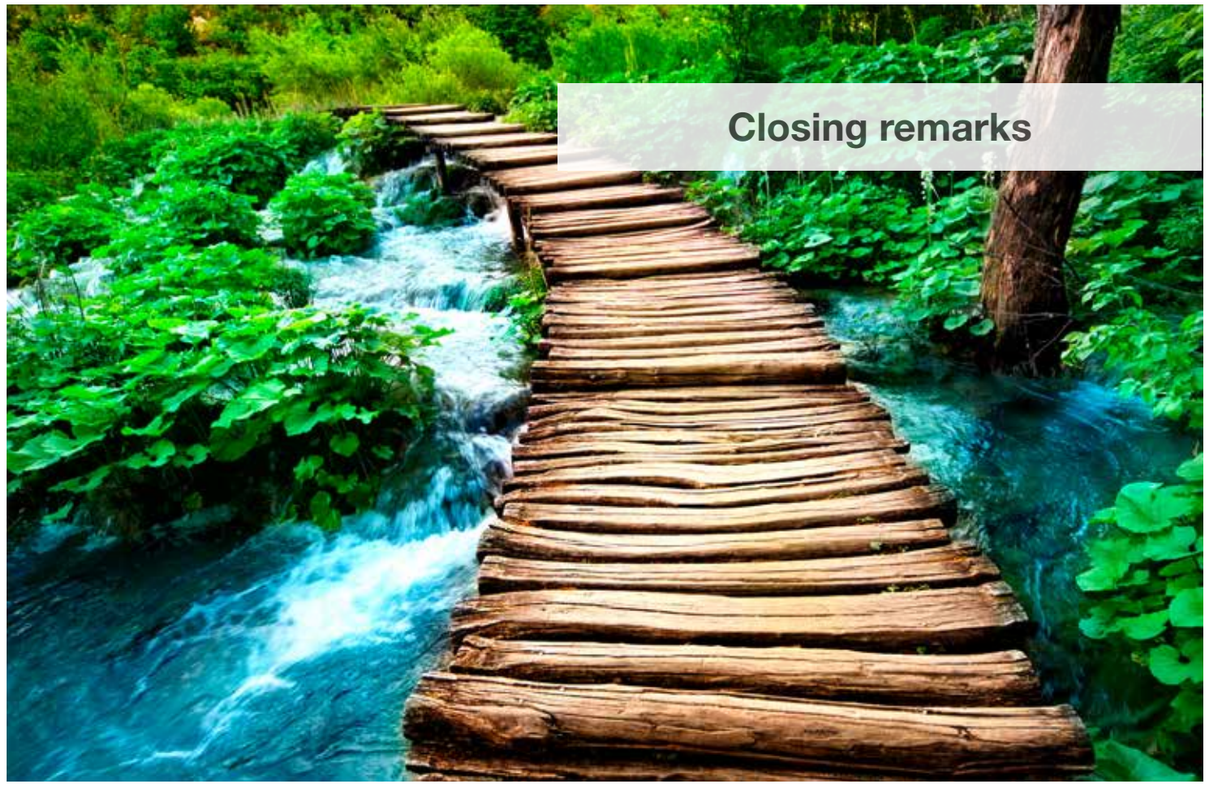
Admonter meets the requirements of two different directives: UZ 07 (wood and wood-based materials) and UZ 56 (floor coverings).

[18] Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication The Austrian Ecolabel 2014

[19] Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication Directive UZ 56 Wood and Wood-based Materials Version 8.0 2015

[20] Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Publication Directive UZ 56 Floor Coverings Version 3.0 2015





Closing remarks

We are not perfect ...

But we work on improving ourselves every day!

Many of the points discussed here are not legal required obligations. However, we are responsible to leave the smallest possible **ecological footprint.**

Only then you can as a customer incorporate the **Admonter quality** in your life with a clean conscience!

The sustainability concept is also reflected in all administrative and planning decisions.

For sustainability reasons this environmental brochure was not printed / available as digital version.
If necessary, a small number of copies will be printed.

Errors, changes, printing and typographical errors reserved.

© Copyright notice

All contents of this folder, in particular texts, photographs and graphics, are protected by copyright. Copyright is, unless otherwise expressly indicated, held by the Admonter Holzindustrie AG. The unabridged reproduction with source reference is permitted until further notice. Partial reproduction requires the written consent of Admonter Holzindustrie AG.

Imprint:

Admonter Holzindustrie AG
Sägestrasse 539
A-8911 Admont
Tel.: +43(0)3613 3350
Fax: +43(0)3613 3350-117

www.admonter.at

Feel free to contact us if you have any questions!
Please send us your message to

info@admonter.at

032017/NHW/EN

Admonter
NATURE´S FAVOURITE DESIGNER

FLOORS ELEMENTS DOORS STAIRS ACOUSTICS

Admonter Holzindustrie AG
Sägestraße 539
8911 Admont, Austria
phone: + 43 (0) 3613 / 3350-0
fax: + 43 (0) 3613 / 3350-117
E-Mail: info@admonter.at

www.admonter.at