

Environmental statement update **2018**

Update of the consolidated 2017–2019 environmental statement



Sustainability has been a core theme in our company and for the development of Wilkhahn office furniture for three decades. The supervisory board’s resolution in 1989 that if in doubt ecology and social responsibility were to be valued more highly than a fast profit is just as relevant today as it was then. Wilkhahn’s overarching goal of sustainability management was and is to make customers all over the world enthusiastic about superbly designed office furniture and useful innovations and services.

Therefore, Wilkhahn office furniture is produced for maximum fitness for purpose and with resources consumed in the process kept to a minimum. The fact that components are easy to disassemble means that using expendable parts is environmentally friendly and cost efficient. By selecting materials carefully and labelling parts throughout, most of the materials used can be recycled when a product comes to the end of its life.

For many years now, Wilkhahn has been actively preventing a negative impact on the environment by manufacturing its products accordingly. At Wilkhahn, the ecological and social sustainability goals are taken into account in day-to-day business decisions and developed systematically. Since 2002, the integrated management system with its ISO 9001, ISO 14001 and EMAS certification has enabled continual improvement at Wilkhahn’s Bad Mnder headquarters. Wilkhahn’s headquarters in Bad Mnder are listed in the European Union’s EMAS register under DE-133-00055.

Wilkhahn is an owner-managed mid-sized enterprise and encouraging social welfare aspects in its dealings with others is a long-established tradition in the company. Wilkhahn has for many years been systematically taking into account and enhancing health and safety, fostering good health and fairness (also in the supply chain).

Wilkhahn has also implemented the EMAS changes that came into force with the EU 2017/1505 regulation. There has been no change from 2017 to the organisation relevant to the environmental management system. This 2018 updated environmental statement reports on the past year’s environmental performance and the successes of the current sustainability programme. As usual, brief texts plus graphics and spreadsheets will provide information about the development of key environmental aspects.

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Wilkhahn supports the UN Global Compact

Wilkhahn is committed to sustainable development objectives throughout all areas of its business.

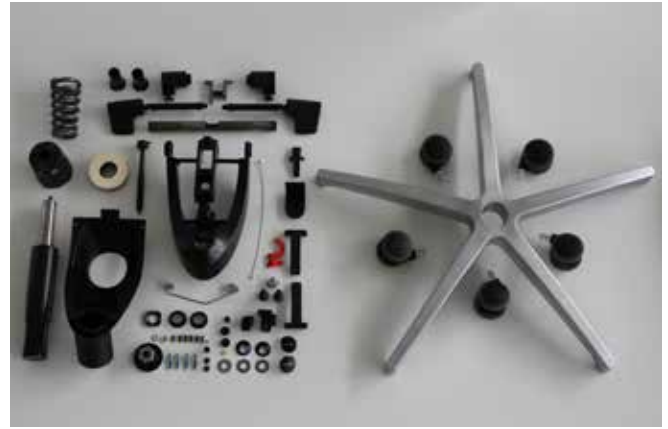
In December 2007, Wilkhahn joined the UN Global Compact, making the policy of responsible management mandatory for all areas of the company. Wilkhahn perceives corporate responsibility as a management philosophy which strives to strike an acceptable balance between the requirements of the various stakeholders.



The ten principles of the UN Global Compact

- Human rights**
- Principle 1:
Companies are to support and observe international human rights within their spheres of influence and
- Principle 2:
ensure that they are not guilty of complicity in infringing human rights.
- Labour standards**
- Principle 3:
Businesses are to uphold the freedom of association and the effective recognition of the right to collective bargaining as well as under:
- Principle 4:
eradicating all forms of forced labour,
- Principle 5:
stopping child labour and

- Principle 6:
eliminating discrimination when recruiting and employing people.
- Environmental protection**
- Principle 7:
Businesses are to support a precautionary approach to environmental problems,
- Principle 8:
Adopting initiatives to generate a greater sense of responsibility for the environment and
- Principle 9:
encouraging the development and spread of eco-friendly technologies.
- Fighting corruption**
- Principle 10:
Businesses should stand up against corruption in all its forms, including extortion and bribery.



Product responsibility.

Our antidote to the throw-away society is to provide products where form, function and materials have a practical purpose and are long lasting. Our product-responsibility concept therefore follows well-defined guiding principles:

1. Avoid waste – “the longer and better”

is the remit to our product development team.

We achieve this thanks to:

- useful innovations that make life easier and more pleasant in the long term;
- first-class materials, surfaces and technical solutions that guarantee quality even after many years;
- distinctive, timeless and appealing designs with the potential to become classics.

2. Reduce – “less is more”

is more than just a design principle to us, it means:

- we reduce the materials used to make handling easier and to protect resources;
- we use energy in manufacturing efficiently, for example by drawing on a combined heat and power plant and heat recovery in manufacturing;
- we reduce emissions, by utilising solar power, climate-neutral energy sources (cutting CO₂) and varnishing techniques that are low in solvents.

3. Recover– “Reuse + Recycle”

In this case, the goal is to continue to use the whole product or parts of it and recycle it at the end:

- Because the products are modular, expendable parts can be exchanged and features added or retrofitted (e.g. armrest types, covers, cushions, surfaces).
- Connecting points in the product can be dismantled for easy repair.
- Where possible, we use pure materials that are marked as such, making them ideal for recycling.

4. Fairness – responsibility all along the line

At Wilkhahn, environmental and social responsibility are inseparable. Health and safety, training, active participation by and fair pay for employees have been integral parts of our corporate culture for decades. As a result, we actively encourage our suppliers and customers worldwide to improve working conditions. Wilkhahn joined Global Compact and was the first furniture manufacturer to sign an international framework agreement on global recognition and fostering of employee interests.



Sustainability goals and sustainability performance.

Emissions

Wilkhahn uses various renewables in order to cut emissions at its Bad Münden headquarters. In 2017, 34 percent of the energy required to manufacture furniture and for the offices came from climate-neutral district heating, photovoltaics and solar-thermal power. The carbon dioxide emissions from production and management buildings amounted to about 2050 tonnes. If production and management areas are only supplied with heat and electricity generated from fossil fuels, this amounts to an annual saving of over 1000 tonnes of carbon dioxide. In order to increase the proportion of district heating in the mix again next year, a more efficient heat exchanger was fitted in February 2018.

Wilkhahn was able to make significant cuts in emissions from its vehicle fleet. Last year, just 260 tonnes of carbon dioxide were emitted. In 2013, this figure was way above 450 tonnes. One reason for the drop lies in the shorter distances covered overall. In 2013, Wilkhahn vehicles were still driving two million kilometres, but in 2017, this figure was cut to 1.3 m kilometres for the whole fleet by improving route planning, organising a more local customer service and taking other measures.



Wilkhahn has had an electricity charging station that enables short battery charging times at the Bad Münden headquarters since January 2018.

Furthermore, Wilkhahn has energy-efficient vehicles and replaces old vehicles early on. While the total distance covered by the vehicle fleet has been cut by 36% since 2013, carbon dioxide emissions have been reduced by a significant 43% by regularly updating the vehicle fleet. Wilkhahn is currently investigating whether certain diesel vehicles could in future be replaced by hybrid cars.

Electricity consumption

Last year, Wilkhahn was able to decrease relative electricity consumption by 7% compared with the 2013 reference year. In the case of relative electricity, the absolute electricity consumption and sales compared with the 2013 reference year were looked at. In 2017, at 2223 MWh absolute electricity consumption dropped by about 2% compared with the previous year. This was achieved by energy-efficiency measures such as continuing to replace older electronic water pumps with frequency-controlled new ones, or using LED spotlights to light up the facades and more efficient air compressors.

Solvents (VOCs)

Last year, approx. 6.85 tonnes of organic solvents were emitted into the environment at the Wilkhahn headquarters in Bad Münden. This is a decline of 3% compared with the previous year. Table top manufacturing was responsible for approx. 3.5 tonnes of VOC and chair upholstery for 3.3 tonnes of VOC. Therefore, the statutory emissions threshold of 15 tonnes of VOC per year was complied with as regards varnishing and gluing in 2017 too. Due to the low quantities no negative environmental impact is to be expected.

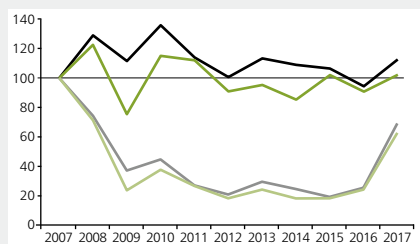
Wilkhahn has stringent health and safety measures in place to protect its workforce. The purpose of regular workspace assessments is to prevent or cut risks due to organisational, technical and personal protective measures. Powerful extraction systems in the workspaces ensure that no harmful solvent concentrations can occur.

Residues and recycling

In 2017, 525 tonnes of residues were produced at Wilkhahn's Bad Münden site. The total decreased significantly by 12% compared with the previous year, but sales were

Development of waste 2007 - 2017

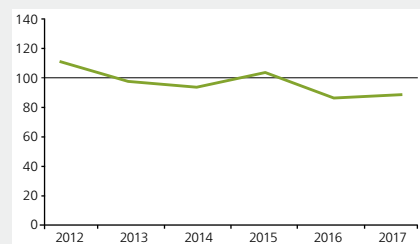
Index value (reference year 2007 = 100)



- Total waste
- Hazardous waste
- Waste (according to groups)
- Hazardous waste (according to groups)

Emissions of organic solvents (VOCs)

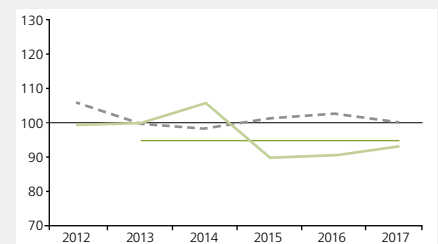
Index value (reference year 2013 = 100)



- Emissions of solvents (VOCs)

Development of relative electricity consumption

Index value (reference year 2013 = 100)



- Environmental goal: -5% less electricity consumption (based on consumption + sales 2013)
- - Electricity consumption index 1 (consumption figures 2013 = 100)
- Electricity consumption index 2 (consumption/sales; 2013 = 100)

slightly lower. Based on sales groups, this is the level of the 2013 reference year.



Waste wood including wood chips, which primarily occur during the manufacture of Wilkhahn table tops, account for about one third (31%) of all residues. At 26%, cardboard packaging accounts for the second biggest share of residues. In terms of quantity, at 17% mixed municipal waste takes third place.

At 43 tonnes, a lot more hazardous waste was produced in 2017 than in the previous year. Its relative proportion in terms of total waste doubled to 8% (2016: 4%). The cause was the breakdown of an evaporator in the powder coater that's normally used to condense aqueous waste from the precleaning process. Which is why large quantities of waste water with a lower concentration of pollutants occurred in December 2017. By replacing faulty components and shortening the evaporator's maintenance intervals, the quantity of hazardous waste will probably stabilise at under 4% of the total quantity of waste from 2018 onwards.

The proportion of residues that can be recycled was at a pleasingly high level last year. In total, it was possible to recycle 93.5% of waste in terms of the materials or heat occurring from production and offices.

Transport packaging

Nevertheless, Wilkhahn still makes sure that transport packaging is non-toxic, easily recyclable and avoided if possible. In 2017, 87% of the transport packaging used was made of renewable materials.

Last year, the amount of packaging sank by 20% compared with 2013 and by 26% when related to sales due to better manufacturing and shipping processes.

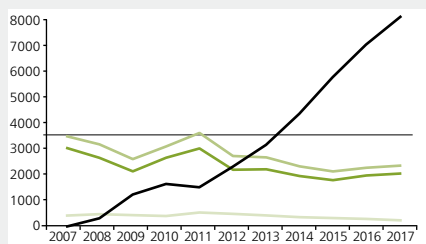
Use of materials, water, soil, biodiversity

There was no change in these aspects compared with the previous year.



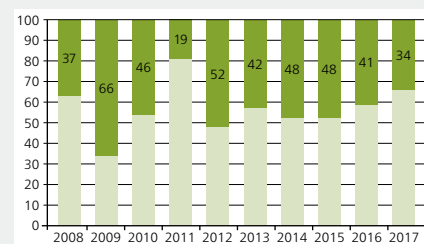
Since 2017, Wilkhahn has been increasingly choosing reusable packaging and therefore cutting resource consumption.

Carbon dioxide emissions in tonnes per year



— Carbon dioxide emissions production and management
— Carbon dioxide emissions vehicle fleet
— Total carbon dioxide emissions
— Baseline carbon dioxide emissions
— Carbon dioxide prevented since 2007

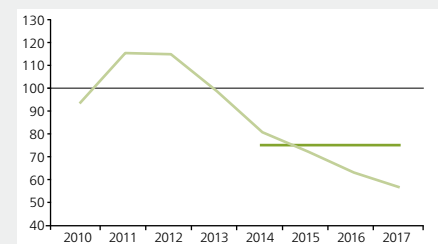
Share of energy from renewable sources



■ Renewables (biomass, photovoltaics, solar-thermal power) in percent
■ Fossil fuels (heating oil) in %

Vehicle fleet – development of the CO₂ emissions

Index value (reference year 2013 = 100)



— The goal: -25% carbon dioxide
— Carbon dioxide emissions vehicle fleet

Sustainability programme of action.

For many years, sustainability at Wilkhahn has meant much more than developing innovative, long-lasting and well-designed office furniture by using eco-friendly materials and production methods. The new Programme of Action for More Sustainability is based on Wilkhahn's approach that business success can only be achieved long term if we are

fair to people and the environment. The action programme will run from 2017 – 2019 and aims to achieve improvements in climate protection, energy- and water-efficiency and in sustainability of the supply chain and fostering good health. Because there's still room for improvement, even in things that are good already.

No.	Goal	Measure/comment	Status	Date	Responsible
1	Protecting the climate, CO₂ avoidance: <ul style="list-style-type: none"> replacing fossil heating fuel at the Bad Münden site by renewables (at least 50% from 2018), the CO₂ emissions by the vehicle fleet are to be decreased by 20% by 2019 (compared with the 2013 reference year), the CO₂ emissions during deliveries are to be cut further. 	Use CO ₂ -neutral district heating generated from biogas and maximise its share in total heating requirements.	 Ongoing	2018	Head of works technology
2		Reduce consumption of heating oil and the associated CO ₂ emissions by 5% by integrating an external warehouse.	 Started	2019	Head of works technology
3		Continue to cut absolute power consumption of Wilkhahn vehicle fleet by introducing energy-efficient vehicles with low exhaust emissions	 Started	2019	Vehicle fleet manager
4		Draw up a concept for using electric and hybrid vehicles.	 Started	2018	Management appointee
5		Logistics services provides appointed use energy-efficient and low-emission vehicles (at last Euro 5 exhaust gas standard).	 Ongoing	2018	Material management head
6		By optimising tours, the loading volume per lorry used will be increased to at least 85% by 2018.	 Started	2018	Material management head, chief operations officer
7		Better packaging units and sizes allow safe and volume-optimised dispatch.	 Ongoing	2018	Product development, process planning, material management
8	Energy efficiency in these cases: <ul style="list-style-type: none"> to cut relative electricity consumption by 2019 by 5% (compared with the 2013 reference year). Effective from 12/2017: -7%	Use LED lighting in selected production areas.	 Started	2018	Head of works technology, company technicians
9		Draw up and implement an energy-efficient lighting concept for the Wilkhahn showroom in Bad Münden.	 Started	2018	Head of works technology, company technicians
10		Replace older compressed-air compressors with new energy-efficient ones. Measure implemented.	 Implemented	2017	Head of works technology
11		Check compressed-air devices regularly for leaks.	 Ongoing	2018	Head of works technology, company technicians
12	Optimise use of materials: <ul style="list-style-type: none"> long-lasting and repair-friendly products, materials low in pollutants, less delivery packaging, fewer remnants. 	Develop innovative, long-lasting and repair-friendly office furniture and use eco-friendly materials and production methods low in pollutants.	 Ongoing	2018	Product review, product development
13		Switch partial deliveries to reusable packaging systems to reduce packaging waste.	 Started	2018	Material management head
14		Permanently cut down on material waste in manufacturing by introducing a quality bonus incentive system.	 Started	2017	Chief operations officer
15		Reduce water consumption in the sanitation areas by using pressure regulators in taps.	 In planning	2017	Head of works technology
16	Encouraging sustainability in the supply chain, fairness and health.	Sustainable supply chain: make regular checks on the top 20 suppliers re quality, health and safety and environmental protection as well as fair working conditions.	 Ongoing	2018	Quality control, management appointee
17		Maintain chain-of-custody certification in line with the specifications of the Forest Stewardship Councils® (FSC).	 Ongoing	2018	Management appointee
18		Carry out regular health days at the Bad Münden headquarters.	 Ongoing	2018	Company health management team
19		Maintain and develop health-boosting programmes for Wilkhahn employees.	 Ongoing	2018	Company health management team
20		Continued support of the dwarf beech initiative to protect biodiversity.	 Ongoing	2018	Management appointee

Material and energy flows: input/output.

Input	2014	2015	2016	2017
Raw materials and consumables (t)				
Ferrous metals	675.7	702.6	661.1	574.7
Aluminium	584.2	658.8	497.8	642.3
Zinc	44.8	51.8	51.6	36.2
Wood	352.8	308.7	329.1	305.7
Laminates (HPL)	35.8	35.4	38.6	39.4
Plastics	579.1	902.7	934.5	853.5
Textiles/upholstery materials	29.3	19.2	23.9	18.9
Leather	17.7	18.6	16.0	19.1
Transport packaging (cardboard/wood)	251.5	406.5	349.9	348.3
Transport packaging (plastics)	43.5	64.2	52.2	51.3
Powder varnishes	3.7	4.1	5.6	5.9
Fuels (heating oil, diesel)	273.0	283.8	320.7	346.8
Energy – production and management (MWh)				
Heat	4,818	5,316	5,454	5,290
Electricity	2,187	2,251	2,272	2,223
Total energy consumption	7,004	7,568	7,726	7,513
Water (m³)				
Water (sanitation, process water)	3,305	7,692	3,604	3,745
Output	2014	2015	2016	2017
Residues and waste (t)				
Industrial municipal waste	71.23	93.7	98.4	89.4
Paper/cardboard	147.33	164.7	147.6	137
Wood/sawdust	135.7	191.6	144.7	164.4
Ferrous metals	26.8	25.7	18.6	28.9
Aluminium	23.2	8.1	4.0	26.8
Packaging film	6.0	9.0	9.5	12.7
Leather	10.1	7.9	10.8	21.5
Textiles/upholstery materials	2.3	4.6	4.6	0.8
Mixtures containing solvents (VOCs)	1.0	2.0	1.8	1.4
Aqueous waste, halogen-free treatment emulsions	8.6	7.8	13.5	33.6
Others	9.1	7.6	14.6	8.6
Total residues and waste	441.3	524.0	468.1	525.1
proportion of hazardous waste	15.3	15.4	19.1	43.4
Energy from renewable sources (%)				
Heat	58	57	48	38
Electricity	25	25	25	25
Total	48	48	41	34
Emissions (t)				
Carbon dioxide (CO ₂)	2,303	2,103	2,247	2,057
Solvents (VOCs)	7.3	8.2	6.6	6.8
Dusts (PM)	<0.01	<0.01	<0.01	<0.01
Nitrogen oxide (NO _x)	0.2	0.2	0.27	0.25
EMAS core indicators	2014	2015	2016	2017
Total value creation (EUR millions)	22.8	28.3	28.7	25.9
Emissions				
Carbon dioxide emissions (t/million euros)	101.1	81.3	80.3	79.5
Energy efficiency (MWh/million euros)				
Electricity and heat consumption	307.4	267.1	269.3	290.5
Energy from renewables	146.3	126.9	110.5	98.8
Material efficiency (t/million euros)				
Total consumption of feedstock and supplies	126.9	122.0	114.4	112.0
Total waste	19.4	18.5	16.3	20.3
Hazardous waste	0.7	0.5	0.7	1.7
Water (m³/million euros)				
Total consumption	145.0	271.5	125.6	144.8


Wilkhahn

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TÜV NORD

**ENVIRONMENTAL VERIFIER'S DECLARATION
ON VERIFICATION AND VALIDATION ACTIVITIES**

in accordance with the
**REGULATION (EC) No 1221/2009 OF THE EUROPEAN
PARLIAMENT AND OF THE COUNCIL of 25 November 2009**
on the voluntary participation by organisations in a Community eco-management
and audit scheme (EMAS)

 **EMAS**

Mr. Thomas Bunge, accredited or licensed for the scope "NAACE-Code 31 01 - Production of furniture",
declares, to have verified whether the whole organisation as indicated in the environmental
statement of the organisation

Wilkhahn
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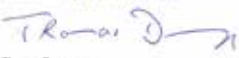
with registration number D-133-00055 meets all requirements of Regulation (EC) No 1221/2008 of the European
Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community
eco-management and audit scheme in the version amended by regulation (EU) 2017/1905 are fulfilled (EMAS).

By signing this declaration, I declare that

- the verification and validation has been carried out in full compliance with the
requirements of Regulation (EC) No 1221/2009,
- the outcome of the verification and validation confirms that there is no evidence of
non-compliance with applicable legal requirements relating to the environment,
- the data and information of the environmental statement of the organisation reflect
a reliable, credible and correct image of all the organisation activities, within the
scope mentioned in the environmental statement.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a Competent Body
under Regulation (EC) No 1221/2008. This document shall not be used as a stand-alone piece of public communication.

Bad Münster, 15.04.2018



Thomas Bunge
Environmental Verifier
DE-V-0122

TÜV NORD CERT UMWELTAUFGABEN GmbH Am TÜV 1 30518 Hannover www.tuv-nord.com
Registration number: DE-V-0263

With its EMAS-validated and ISO 14001 certified environmental management system, Wilkhahn is taking responsibility for sustainably protecting our environment.

This 2018 environmental statement updates the consolidated environmental statement that covers the years 2017 to 2019.

In this 36-page brochure, Wilkhahn reports on the company's environmental performance and other aspects of sustainability. It's available as a PDF to download from the Wilkhahn website and in German, English and Dutch in print.

The next update will be published in April 2019.

Legal notice

Published by: Wilkhahn

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