

THE BIO-BASED OFFICE

... sustainable and innovative ...



Office Interiors | Office Materials | Office Design

With support from



Federal Ministry
of Food
and Agriculture

by decision of the
German Bundestag





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The Bio-Based Office

Around 17 million people in Germany work in an office environment. Students and pupils also spend many hours in front of displays and in office-like work places. A significant amount of our lives is spent inside closed rooms surrounded by many products made of finite fossil based materials. The production, usage and disposal of these products results in an environmental burden.

The office supply sector in particular (except the paper sector) traditionally uses plastic products made of fossil resources. However some producers have already found alternatives.

The office furniture sector uses native wood from sustainable forestry, which is sufficiently available with proved sustainability acknowledged by eco-labels (e. g. Blue Angel, FSC, natureplus or PEFC). The same applies for numerous innovative bio-based materials and floorings, which are essential for a healthy indoor climate. The Agency for Renewable Resources (FNR), as the Federal Ministry of Food and Agriculture's public agency, invites you experience "The Bio-Based Office". **Welcome to this new product world!**



1 Door and windows

Wood from sustainable and local forestry assures a good indoor climate. Wooden furniture, doors and windows help protect the climate and resources. An ash wood door and pinewood window were chosen for "The Bio-Based Office". Eco-label: PEFC

2 Office furniture

Modular furniture (upgradable anytime) made from FSC certified native solid birch wood. The desk is ergonomic and height-adjustable, tabletop in modern format, natural surface treatment, low pollutants and emissions – as evidenced by the eco-INSTITUTE-Label.

3 Visitor chairs

Beech multiplex material, FSC certified, changeable padding, pure virgin wool, LGA-tested – certified by the eco-INSTITUTE-Label, padding core of coconut fibres, stackable, tilting backrest, five year warranty. | Stool: beech wood from sustainable forestry, naturally oiled. Padding: 100 % pure virgin wool, no heavy metal staining, EU Ecolabel.

4 Rear wall elements

For the inside wall several bio-based materials were used to demonstrate the diverse possibilities of a natural wall design. Different bio-based materials for the interior insulation are presented on the back (wall chart outside). Innovative example: seaweed as residue from the ocean.





5 Office supplies

Bio-based plastics play an increasingly important role in innovative and creative office supplies. They are derived from wood (lignin), sugar or starch. Recyclability, biodegradability or transparent supply chains are documented by eco-labels and therefore ensure sustainability.

6 Mobile pedestal (Content)

Different bio-based office supplies: wooden pens and bio-based plastic ball pens, rubbers made of natural rubber, calculators made of bamboo and bio-based plastic, glue sticks (bio-based inside/outside), adhesive tape with solvent free surface, water-based correction fluids or envelopes with a recycling quality certified by Blue Angel, FSC or PEFC.

7 Desk chair

Height-adjustable swivel armchair with adjustable lumbar-support. FSC certified wood core. Padding material: certified by "Cradle to Cradle" (CLIMATEX). Additional material is unmixed, recycled plastic. Proved precursors and local supply network, producer's environmental management system and reverse logistics. The material's recycling rate is 96 %.

8 Flooring

Linoleum: linseed oil, bio-based resin, wood and limestone meal, jute and eco-logically safe colour pigments. Eco-label: Blue Angel | Lodge threshing floor. Native ash from sustainable forestry. Eco-label: Blue Angel, PEFC | Carpet: goat hair and pure virgin wool, suitable for allergy sufferers. Eco-label: Blue Angel



The “federal government’s action plan for the industrial use of renewable resources” emphasises that the public sector should become a role model and use its market power for climate and resource protection. Therefore the Federal Ministry of Food and Agriculture initiated the project “Bio-Based Products in Public Procurement” at the Agency for Renewable Resources (FNR). The project offers information material and provides a communication platform for product manufacturers and public purchasers.

<http://beschaffung.fnr.de>

Bio-based office products

Creative businesses in the office supply sector have already realised that production based on fossil resources is limited. Therefore they have repositioned their companies within the bioeconomy. Bio-based office products included not just paper and wooden pens but also bio-based punchers, transparencies, keyboards, marker pens and glue sticks. Furthermore, innovative products such as furniture, wall panels and flooring elements are presented. All products are certified by an eco-label.

Public procurement represents an essential market pull for bio-based products. Producers need to find access to this important market.

The EU public spending on purchasing supplies, works and services adds up to 19 % of the Gross Domestic Product (GDP). Sustainable procurement is supported by member states and EU policy.

Bio-based product world

Nearly 100 innovative and bio-based products are used for our market booth “The Bio-Based Office”: products range from material for the booth frame made of native FSC certified ash, certified wooden flooring, linoleum and goat hair wall surfaces show the possibilities of a bio-based wall design.

We demonstrate the diversity of interior insulation with boards in the background. Windows and doors made from certified wood provide a natural room climate. The wide range of bio-based office supplies fulfills expectations regarding product choices and design.



InnProBio seeks to build a community of public procurement practitioners interested in the procurement of bio-based products and their associated services. By harnessing the potential of public procurement to foster innovation, InnProBio aims to work with the public sector to:

- Develop tools for practitioners
- Facilitate the creation of buyers groups
- Increase the awareness and incentives in order to lower the barriers to purchasing, thus leading to the opening of new markets of bio-based products in Europe.

InnProBio is an EU funded three-year project which began in March 2015. It is funded by the European Commission's Horizon 2020 programme.

www.innprobio.eu



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Total economic costs and non-financial incentives

Considering the budget limitations of the public sector, the lowest offer is the most frequently used evaluation criterion in public tenders. Environmental aspects are often neglected. An intact environment contributes to public welfare but is often not defined as product related value.

Security of supply is an important aspect in a strategic procurement approach.

Besides the price, several criteria play an essential part in the evaluation of products:

- Saving of limited fossil raw materials
- Reduction of carbon-dioxide emissions
- Cascade use to ensure carbon storage
- Jobs for SMEs through emerging markets
- Regional economic growth
- Prospects for rural development
- Security of supply
- Competitiveness
- Saving of total economic costs

Behavioural change is not easy to achieve. That also applies to the public sector's purchasing habits. The new, innovative products in the office supply sector need to show buyers that they are reliable, high quality and efficient. Market dialogues between producers and certain stakeholders in the public sector can support this.

The Agency for Renewable Resources (FNR) supports this with the project "Bio-Based Products in Public Procurement" project and "The Bio-Based Office" special exhibition. The Federal Ministry of Food and Agriculture is supporting the transition from a fossil-based to bio-based economy with its Bioeconomy Strategy.

www.biooekonomie.de



Labels for orientation

It is worth taking a quick glimpse at the eco-label requirements for the formulation of social, ecological and economic sustainability. New procurement regulations strengthened the use of eco-labels as means for sustainability verification.

	Criteria	Certified eco-labels Type I	Self-declarations Type II	Product declarations (EPD) Type III
Characteristics	The company needs to perform an LCA	No	No	Yes
	Certification by 3 rd party	Required	Not required but enhances credibility	Not required but enhances credibility
	The eco-label communicates ...	Better environmental performance with same quality	Improvement of one environmental aspect	Plain LCA data for comparison with other EPD
Useful for ..	Communication with final consumer	Good	Good	Not suitable
	Business to business	Helpful	Helpful	Good
	Green procurement	Good	Helpful	Good

Source: <http://www.ecosmes.net/cm/navContents?l=EN&navID=envProduct&subNavID=1&pagID=1> [Last access: 15.04.2016]

The recognised eco-labels for the office sector are presented below. Their basic criterion is the use of sustainable bio-based materials. Comparable to the EU Ecolabel (Type I) they are considered to be a Type I or similar to Type I label. For the development of tender product specifications different eco-label criteria can be used. The tenderer needs to show appropriate evidence.

Office equipment: furniture, windows, doors made of wood and wood-based material

Climate friendly procurement can be shown by the use of furniture, windows and doors made of wood, because this renewable raw material works as CO₂ storage during the product use phase.

Sustainable forest management is characterised by the following criteria:

- No more than the required wood is cut down.
- Protection of the forest as intact ecosystem.
- High work safety standards during all forestry work.
- Upholding labour rights.
- The rights of people, who live in or are dependent on the forest (e. g. silviculturist, indigenous peoples) are protected.





These approved labels guarantee sustainable forest management and timber harvesting to different degrees:

<https://us.fsc.org/en-us>
www.pefc.org



A good indoor climate is important. Pollutants can be emitted from wood, cushion materials and also from adhesives, glues and coatings. Therefore tenders for wooden products need to consider conditions for sustainable forestry as well as the use of volatile or toxic substances during the production of the final product.



The Natureplus label certifies different bio-based building materials. These include wooden products, insulating materials, colours and paints as well as flooring. www.natureplus.org

Besides a high percentage of bio-based raw-materials and the use of bio-based surface coatings and glue, Natureplus demands the use of sustainable wood. Find more information:

<http://natureplus.info/cms/index.php?id=111&L=0>

The following sustainability criteria should be met from the processing of wood to the finished furniture item:

- Resource-saving and low-emission production
- No emissions during the product life
- Unmixed quality and longevity
- Repair friendliness and possibility to upgrade
- Recyclability
- Environmentally safe disposal

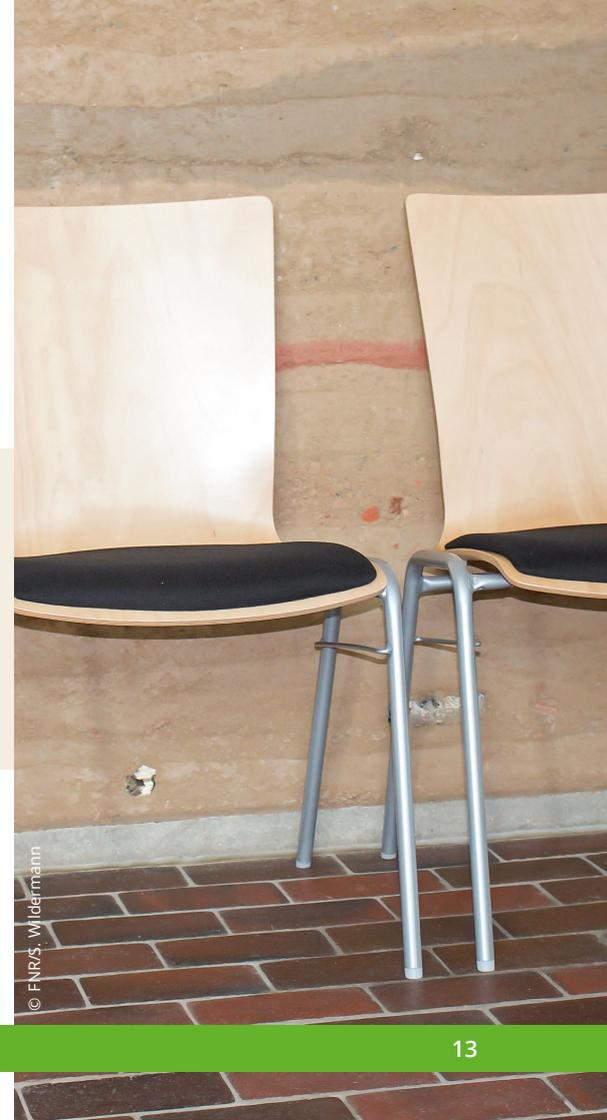
The following labels are relevant for office furniture and chairs:

www.blauer-engel.de/en/
<http://ec.europa.eu/environment/ecolabel/>
www.umweltzeichen.at
www.eco-institut.de/en/
www.oekocontrol.com
www.oeko-tex.com



Office materials: paper, folder systems and bio-based plastics

Office supplies made of certified and recycled paper are an easy introduction to “green procurement”. There is no need to cut down new trees. Cascading helps save resources.



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The following eco-labels apply for paper and envelopes:

www.blauer-engel.de/en/
<https://us.fsc.org/en-us>
www.pefc.org
<http://ec.europa.eu/environment/ecolabel/>
www.svanen.se/en/
www.umweltzeichen.at



Innovative office equipment is often made of bio-based plastics. Different bio-based raw materials can be used to produce bio-based plastics; sugar from sugar beet or sugar cane, starch from corn, wheat or potatoes, oil from soy and rape, lignin and cellulose from wood.

An important incentive for the advanced development of bio-based plastics is increased resource protection through the use of waste materials and agricultural residues.

Labels for “bio-based plastics” are:

www.vincotte.be/en_be/
[vincotte/](http://vincotte.com)
www.dincertco.de/en/



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Office design: bio-based colours/paints, insulation material and flooring

Products for indoor design influence indoor climate and human health. Because of that, approved labels not only take regard of the used bio-based raw-materials from sustainable sources but also of the avoidance of substances which can be damaging to human health such as biocides, pesticides, formaldehyde and heavy metals as well as synthetic binders and bonding agents. Moreover, labels emphasise low energy use during production as well as recyclability and longevity.

Labels for indoor design are:

www.blauer-engel.de/en/
www.natureplus.org
<https://us.fsc.org/en-us>
www.pefc.org
www.umweltzeichen.at
www.ibo.at/en/
<http://ec.europa.eu/environment/ecolabel/>
www.svanen.se/en/
www.oeko-tex.com
www.greenline-online.de



Finally, we want to point out a certificate which labels products that are produced from “Cradle to Cradle”. The concept focuses on the reconstruction of linear material flows in circular nutrient cycles, so that once goods are produced they remain available. There is no waste, but material will be recovered for other means of utilization. Find more information: www.braungart.com

Opportunities for small and medium-sized enterprises (SMEs)

Innovative and bio-based products are often produced by SMEs and start-up companies. Due to a lack of personnel and financial resources they often do not have the eco-labels required by public procurement. Nonetheless, these products are often well suited to protect the environment and should be considered by public purchasers.



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**More information about current events
and fairs**

[www.biobased-office.eu/
service/tour-plan](http://www.biobased-office.eu/service/tour-plan)

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More information

www.biobased-office.eu



THE BIO-BASED OFFICE ... sustainable and innovative ...

- Office Interior
- Office Materials
- Office Design
- Partner
- Service



Office Interior



Office Materials



Office Design



Environmental Labels



Product Data Base



Tour Plan

Fachagentur Nachhaltende Rohstoffe e. V. (FNR)

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