



# Biodiversity-oriented design of company premises

Well-being and added value through the „principle of nature“

The integration of biodiversity into a company's sustainability strategy offers managers good opportunities to further develop corporate identity around important aspects such as *lifestyles of health and sustainability* or *work-life-integration*.

A deliberately biodiverse design and life-oriented architecture of company premises holds relevant potential for optimizing the quality of stay and working atmosphere. In many industries, this is already of decisive importance for attracting and retaining customers and employees.



Green spaces within urban areas promote well-being and encourage healthy behaviors. Designed appropriately, company premises can become a place of recreation and encounter.

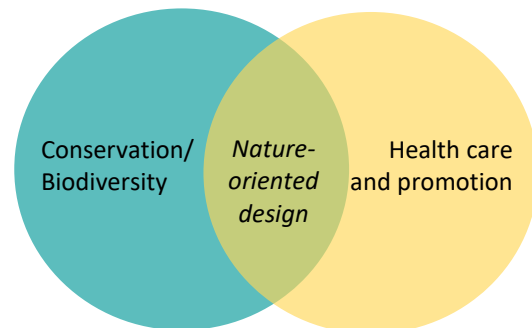
Maintaining and strengthening performance and creativity in the workplace are important goals for every company. The nature-oriented design of business premises offers many possibilities that can be part of a company's health management.

The present information provides guidance for developing individual and strategic plans, as well as suggestions for promoting well-being through biodiversity-oriented design ideas.

Varied and nature-oriented company premises are attractive places for employees, customers and neighbors. They demonstrate an overall open attitude and testify to a modern corporate culture. A company site that is designed in accordance with nature shows a conscious approach to the environment, a living connection to the surroundings, and thus promotes cooperative teamwork.

Biodiverse design elements can be used in a targeted manner to improve air quality and microclimate in industrial and commercial areas. They

are thus suitable as measures for adapting to climate change within a green infrastructure of company premises, industrial estates and public open spaces that needs to be further developed.



*Biodiversity and health care and promotion can be optimally combined on company premises that are oriented towards nature.*

## The „nature principle“ and its influence on well-being

The biodiversity-oriented design of company premises is a pragmatic approach for companies of all sizes as well as for social institutions and municipalities to contribute to the preservation and development of biodiversity. At the same time, such measures promote well-being of employees – a central goal of modern personal development.

Scientific studies agree that diverse landscapes and green spaces promote psychological well-being by restoring attention, reducing stress, and evoking positive emotions. Of course, the positive effects vary according to individual stress reactivity and personal perception of landscape spaces (Van der Berg et al. 2014).

### Physical well-being

- Through attractive opportunities to move outdoors
- Seeing „greenery“ reduces heart rate and blood pressure

### Social well-being

- Promotion of social interaction and communication, e.g. during walks
- Stimulation of creativity through experience of nature
- Stress-reducing, relaxing and balancing effect

### Psychological well-being

- Fostering positive emotions
- Support in recovery from emotional stress
- Spending time in natural environments can counteract mental fatigue

Here are some examples:

- ☀ *A biodiverse and naturally designed environment promotes health by encouraging healthy behaviors (Lovell et al. 2014).*
- ☀ *Green spaces in urban areas support recovery from emotional stress (Van der Berg et al. 2014).*
- ☀ *Nature-oriented landscapes promote positive emotions (Abraham et al. 2010).*
- ☀ *There is a positive relationship between improved availability of urban green spaces and life satisfaction as well as mental and physical health (Kolbe & Krekel 2017).*
- ☀ *Natural spaces in urban areas have a positive effect on physical health. Walks in natural surroundings reduce ruminations and neuronal activity in an area of the brain that is associated with the risk of mental illness. (Bratman et al. 2015).*
- ☀ *Green spaces promote movement by providing space for walking and sport activities (Wüstmann et al. 2014).*
- ☀ *Nature helps restore the attention needed to analyze and refine ideas (Plambech et al. 2015).*
- ☀ *Sustainability and health aspects are gaining importance, especially in more highly qualified environments (Schleer & Calmbach, 2015; Glöckner et al. 2010).*

### Ecosystem services relevant for people and the environment

- Improved microclimate
- Noise protection
- Improvement of air and soil quality
- Species-specific habitats

## Ecosystem services – in the service of health

In addition to the link between nature and psychological and social well-being, the **ecosystem services** provided by green spaces are highly relevant to human health (IPBES 2019).

Vegetation can reduce sound propagation by absorbing or diffracting noise. There is also evidence that vegetation influences human noise perception, regardless of actual effectiveness in mitigating noise (ten Brink et al. 2016).

Green spaces have a measurable impact on the microclimate and improve air quality. Green facades can significantly reduce the concentration of nitrogen dioxide: plants (and microorganisms) can regulate the air balance by reducing NO<sub>2</sub> by up to 40% and particulate matter by up to 60% (Pugh et al., 2012).

Green corridors serve as cold air corridors; trees, green facades and green roofs contribute to the cooling of heat-stressed areas through evaporation (IPBES 2019, Wüstemann et al. 2017).

## Design possibilities and impulses for action

It is important to recognize the individual potential of the site: buildings, terrain, and diversity and include them in the planning or development.

The following principles of biodiversity-friendly and needs-oriented design serve to develop ecological, economic and social potential. In this respect, these measures can be regarded as investments which, when viewed as a whole, create added value for the company:

### Basic principles of biodiversity-oriented design

- ☀ Use site-appropriate and native plants
- ☀ Create more green areas through flowering meadows (differentiated mowing regime)
- ☀ Develop extensive and cost-reducing maintenance concepts
- ☀ Avoid the use of fertilizers and pesticides
- ☀ Minimize sealing and match it to operating functions
- ☀ Generate diversity through structured habitats
- ☀ Prioritize the use of regional materials
- ☀ Green buildings
- ☀ Design open spaces and amenities according to people's needs
- ☀ Align surface water and soil management with biodiversity

As forward-looking measures, employees can be involved in the planning and maintenance of company premises close to nature to promote team-building: e.g. through employee meetings, surveys or workshops, which may be supported by moderators.

Activities of this kind may include: installing nesting boxes for birds, creating and maintaining herb and flower beds that are attractive to butterflies and can be used in the company cafeteria, creating cairn and deadwood arrangements, habitats and pools that enable the experience and stimulation of the senses through colors, shapes and smells.

Today, company premises are mainly designed to be functional and minimalist. This tidiness is associated with the company's good performance. In the future, company premises will acquire central additional functions. They will make an important contribution to the recreation of employees, increase the quality of experience and stay, and at the same time provide suitable habitats for native plants and animals.



Open areas serve as a space for encounters that promote creativity, interactions and exchange.



A network of paths with different stations encourages employees to move around more.



Recreation and relaxation through nature exploration; stimulation of the senses through diversity



*Exercise trail:* sports equipment on the company premises can motivate employees to do something for their **fitness**.



Edible fruits and herbs are rich in vitamins and offer enjoyable experiences during the lunch break.



Twisted corners and secluded benches as a **retreat** and oasis of **relaxation**.



Involvement of employees; implementation of measures as team building activities.

### Photo credits

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## Boosting Urban Green Infrastructure through Biodiversity-Oriented Design of Business Premises

The EU LIFE Project "Boosting Urban Green Infrastructure through Biodiversity Oriented Design of Business Premises" (**LIFE BooGI-BOP**), implemented throughout Europe by seven partners, promotes the nature-oriented design of company premises.

We support you with an initial consultation, through which we offer you orientation regarding the possibilities of nature and needs-oriented design of your company premises. For the implementation of the planned measures, we will gladly provide you with addresses for contacting suitable landscape architects and service providers in the green sector in your region.

We are happy to support you!

For more information visit: [www.biodiversity-premises.eu](http://www.biodiversity-premises.eu)

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Editor: Global Nature Fund

Author: Global Nature Fund & ILbA e.V.

Version: December 2021

Funded by:



LIFE-BooGI-BOP  
LIFE17 GIE/DE/000166

### Project partners

