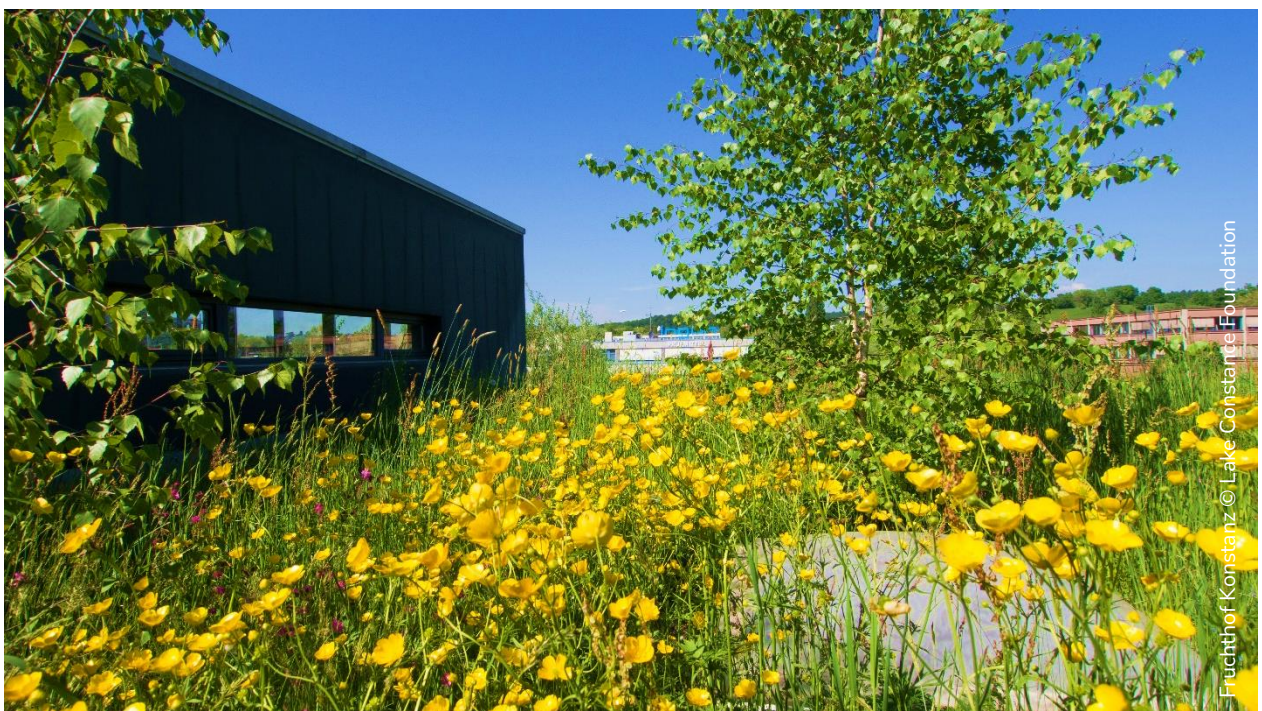




## Biodiversity-oriented Design of Business Premises



## About the EU LIFE BooGI-BOP Project

Boosting  
Green  
Infrastructure  
through  
Biodiversity-  
Oriented  
Design of  
Business  
Premises

The acronym BooGI BOP stands for **Boosting Green Infra-structure through Biodiversity-Oriented Design of Business Premises**. Seven European partners promote biodiversity as a part of green infrastructures. Activities include guiding, consulting and accompanying companies, increasing awareness, motivating architects and conducting training programs with gardeners and landscape planners. Monitoring and mainstreaming the topic should contribute to the long-term protection of biodiversity to preserve and enhance ecosystem services.

### Key Information:

- Seven partners from four European countries
- Starting date: July 2018  
End Date: December 2022
- Project budget: 1.8 Million EUR

### Core activities

- Guiding companies towards BOP.
- Development of tools for companies with real estate management.
- Collaboration and support with local authorities and local green infrastructure initiatives.
- Trainings for facility managers, architects, planners and gardeners.
- Establishment of a Europe-wide structure, webinars and national focal points in the project countries.
- Monitoring the impact of measurements on BOPs.

LIFE17/GIE/DE/000466



EU LIFE BooGI-BOP is a project funded by the EU LIFE programme, the European Union's funding instrument for the environment and climate action.



### Project Partners

Austria:	Office of the State Government of Vorarlberg
Germany:	Global Nature Fund (GNF) Institute of Life-based Architecture e. V. (ILbA) Lake Constance Foundation (Lead Partner)
Slovakia:	Ekopolis Foundation
Spain:	Ecoacsa Reserva de Biodiversidad, S. L. Universidad Politécnica de Madrid (UPM)





Pulswerk

more than  
100.000 m<sup>2</sup>  
biodiversity-  
oriented area  
created



Sven Schulz

1464  
facility managers,  
architects & multipliers  
capacitated



Pixabay © heimgarten

143  
companies  
consulted



Pixabay © planet\_fox

12 brochures  
and fact sheets  
created



Pulswerk

21  
best-practice  
examples  
published



Pixabay © peggychoucair

European-wide  
Monitoring System  
launched



## Protecting our Biodiversity

Biodiversity refers to the variety of living species on Earth, including plants, animals, bacteria, and fungi.

Biodiversity loss is among today's biggest challenges for humankind. In the EU up to 80 % of the available area is used for cities, roads, agriculture and forestry production, and industrial areas with nearly no space for plants and animals.

**Biodiversity is the basis of life.** Intact ecosystems with a high biodiversity enable a good quality of life for present and future generations. Every day we use nature's services: clean water and fresh air, food and raw materials. These functions form the basis for all human activities. As a logical consequence, society, companies and politics should contribute to the long-term protection of biodiversity to preserve and enhance ecosystem services.

### Biodiversity-Oriented Design of Business Premises

**Every contribution to the preservation of biodiversity is important!** Biodiversity-oriented design of business premises (BOP) is a pragmatic approach to contribute to the protection of biodiversity. BOP provide permanent or temporary habitats for local fauna and flora and contribute to the creation of biotope corridors and the interconnection of the so-called green infrastructure.

A biodiversity-oriented and needs-based design increases the functionality of a property in many respects: e.g. green roofs reduce the necessity for air-conditioning (thus saving energy) and improve the microclimate and the attractiveness for employees and guests. BOP offer good opportunities to sensitize and actively involve employees with biodiversity, improve the working atmosphere and increase employees' identification with the company. In this way, a company contributes to the protection of biodiversity and at the same time improves the overall attractiveness of its premises.



## Added Value of Biodiversity-oriented Premises

### Value for nature

In our urbanizing world, small green patches can already contribute a lot. By planting native trees, shrubs and flowers, we provide food and shelter for countless insects and birds. Even the smallest company has place for nesting aids, which can be installed on trees, buildings, and any other vertical structure.

Foliage provides shelter for insects, birds and small mammals, like the hedgehog.

### Value for the companies

Appealing premises with recreational areas make the company attractive for employees. They help to show the company's commitment to biodiversity and generate interest in environmental and sustainability management as a whole. Permeable surfaces restore the natural water cycle and help to protect the company premises from flooding. Green roofs and facades are a natural air conditioning system and help to save energy in hot summer months.

Involving employees is a team building activity and consolidates the company's sustainable reputation.

### Value for people

Neighbours and employees benefit from the ecosystem services provided by the vegetation, including an improved microclimate and air quality and protection from environmental noise. Moreover, green spaces promote mental well-being by restoring alertness, reducing stress and evoking positive emotions.

Twisted corners and remote benches serve as a retreat and oasis of relaxation.

## Biodiversity-oriented Premises in Europe

Our objective is to mainstream the concept of biodiversity-oriented design into business operations and decision-making in Europe. This is a major task given the different starting situations for BOP in the various countries of Europe.

In Austria, there is already a strong network of initiatives, organizations, and municipalities working to strengthen biodiversity in settlements. Also in Germany, there is a vibrant community for ecological gardening and a solid foundation from previous projects. However, there can be resistance to a biodiversity-oriented design due to societal perceptions that it may appear unkempt. Both in Germany and Austria, a great challenge is the lack of planners and landscape gardeners who consider biodiversity as a relevant topic. Due to its location in the Mediterranean region, implementing BOP in

Spain presents specific challenges and opportunities. Innovative solutions such as green roofs and walls can be implemented to reduce energy costs and improve the comfort of employees and customers while the dry and hot summers make maintenance a challenge. Spanish companies such as Iberdrola, Naturgy, Repsol or Redeia have started considering BOPs as a core action to their sustainability strategy.

In Slovakia, BOP are a new topic, but it has the potential to be very attractive as companies can become role models and can use BOP to enhance their reputation as responsible and sustainable organizations. The EKOPOLIS Foundation has been supporting businesses in the design and management of their premises in a way that promotes biodiversity, working with global players like IKEA and Volkswagen.

## Solutions and ideas offered by LIFE BooGI-BOP

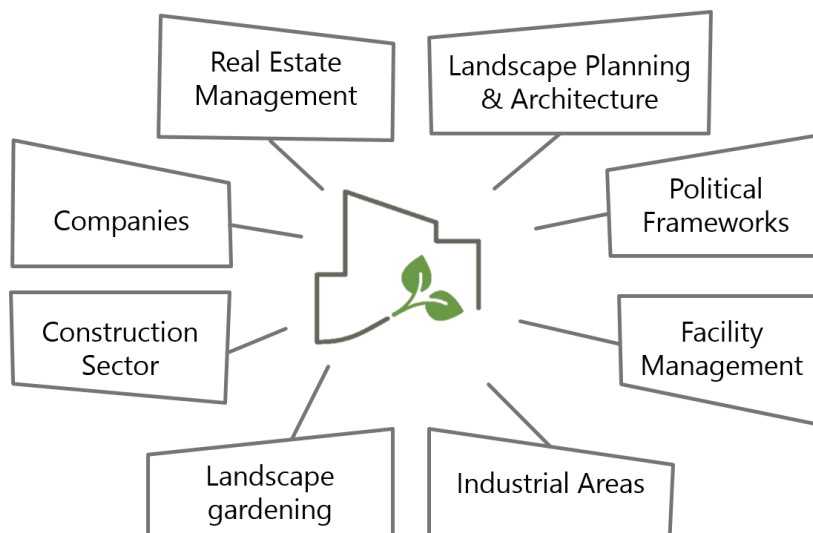
A core activity is to promote biodiversity-oriented design of business premises as a way to protect and increase biodiversity at the local level. These actions include reaching out to, motivating and guiding companies towards implementing BOP.

Beyond working with companies and real estate management in the practical implementation, we are addressing and involving all relevant stakeholders to ensure that a diversity of perspectives and needs are considered and that our efforts are widely accepted and supported.

Involving planners and the construction sector is key to a holistic approach. We organized workshops for landscape gardeners and architects to teach recommendations for “good professional practice”, aiming to integrate these into technical manuals and syllabuses at universities and gardening schools.

Moreover, facility managers and service providers that maintain business premises are crucial to make BOP successful. Trainings and seminars teaching the basic principles of biodiversity-oriented design help to ensure the correct implementation. For industrial areas, we have developed blueprints. Besides practical guidelines, this includes incentives in order to motivate companies to establish biodiversity-oriented premises.

Working together with various chambers of commerce and company networks, we raise awareness and have a fruitful channel to reach out to companies. Direct collaborations, such as with the IHK Brandenburg, upscale our efforts.



*Stakeholders and fields of work directly addressed within the EU LIFE BooGI-BOP Project.*



## Getting companies involved

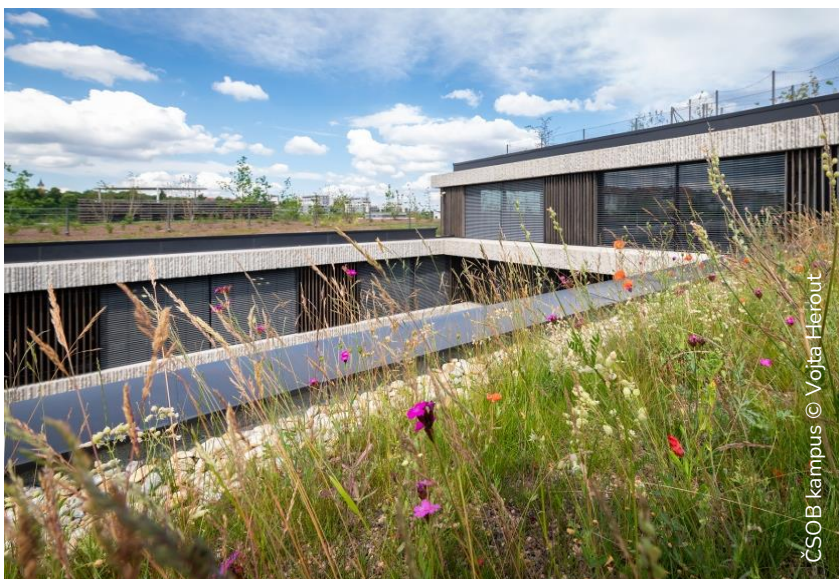
Company premises often have minimalistic and tidy designs. Lawns instead of flower meadows, asphalt instead of nature. While this tidiness is associated with a good performance, such premises have no added value. Biodiversity-oriented premises instead go along with additional functions. In the dialog with the company, we advocate to include the employees in the planning processes and cooperate together in implementation activities. We have experienced that BOPs are a work in progress. Getting started is a challenge. Prioritization and defining a development plan for a step-by-step implementation is utmost important.



Visit our  
interactive  
[info graphic](#)

## Designing your premises

**There is no one-fits-all approach.** It is important to recognize the individual potential of the sites: buildings, terrain and diversity, and include them in the planning and development. For existing sites, prioritizing measures in a step-by-step implementation is recommended. Higher costs for the transformation pay off in the medium term, if sustainable solutions with low, simplified maintenance are chosen. Needs-oriented design generates added value and can therefore be regarded as an investment. Step-by-step implementation makes costs predictable and manageable.



### Possible measures:

- Planting trees and hedges
- Greening fences, walls and facades
- Flower meadows
- Perennial flower beds
- Green recreation areas for employees
- Nesting aids, bat boxes and insect hotels
- Biodiverse green roofs
- Multiple habitat structures (e.g. wood piles)

## Working with Industrial Areas

Industrial areas hold enormous potential, as they make up 2% of Europe's surface area. This corresponds to approximately the size of Romania. We want biodiverse and needs-based methods to become the new standard in green space design.



© Stefan Gassner

Industrial and commercial areas consume a lot of land. It is therefore important to enhance the habitats in these areas and the spaces in-between, so that they act as biotope corridors instead of barriers. The EU LIFE Project has piloted alternatives for grey zones with high sealing and shows that biodiversity and industrial areas are not mutually exclusive.

In the municipality of Schlier, a green development plan was developed including the requirement for 75 % of roof surfaces to be covered in extensive green roofs combined with solar panels, the infiltration of all precipitation on the property, the design of second-order traffic routes and parking spaces for infiltration, and the creation of near-natural retention areas. Outdoor areas must also be designed with a biodiversity-oriented appearance, such as native flower meadows and near-natural hedges. A bonus system has been developed to encourage companies to adopt more sustainable construction methods, such as using space-saving and energy-efficient designs, eco-friendly building materials, and integrating greenery into buildings. Companies can earn points in five categories and save money on land prices by reaching bonus levels. The sale of the commercial development area has begun and progress can be monitored in the coming years. Learn more about the concept in Schlier [here](#) (German language only).

A pilot area in the north of Spain is being developed in the business park Parque Empresarial Principado de Asturias (PEPA), settled in Aviles. Through a collaboration agreement, expert advice is being provided to Sepides (public company owning PEPA) is accompanied in the implementation of biodiversity measures. This includes various solutions for permanent or temporary habitats as well as ecological connectivity of green infrastructure.

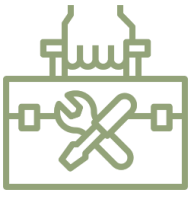
In Austria, a prime example is the Municipality of Lustenau. The municipality opted for biodiversity as the key to efficient and sustainable management, relies on communication and offers design elements from the "construction kit" for its companies in its commercial areas. Biotope corridors are included in the planning, so that, for instance, the industrial area Heitere is not only an excellent location for companies, but also for biodiversity.



Aerial view of the industrial area of Schlier © Stefan Schüle



## BOP Toolbox for Mediterranean multi-site management



We guide companies with multiple sites towards biodiversity. The BOP toolbox provides standardized development and maintenance systems to reduce complexity and costs. Actions are designed for the unique conditions of the Mediterranean environment.

This toolbox offers design alternatives, maintenance plans, bidding procedures, and general principles for BOP implementation. To integrate BOP into a company's real estate management, we analyze holdings and site requirements. The measures are based on analysis of company holdings and requirements for site development and maintenance.

Our BOP actions to boost biodiversity include:

- **Restoration** - creating new habitats or improving existing ones, e.g. greening the facilities by planting local species or complex interventions like green roofs and facades.
- **Site Management** - improving green area maintenance, especially water resource management in Mediterranean climates with summer droughts. Also reducing the use of herbicides, pesticides, etc.
- **Species Improvement** - promoting measures to improve species life cycles and local fauna, e.g. installing nesting boxes, insect hotels, or improving connectivity through green corridors and networks.

## Dialogue with planners and stakeholders

As a basis for the dialogue with stakeholders from the fields of politics, governments, teaching, research, planning, professional associations and companies we wrote the discussion paper "Developing Biodiversity in Business Areas". The graphically edited document discusses possible solutions for the professional world.

Based on this process, three online (Time to act) impulses with internationally renowned examples have opened up space for discussion between planners, architects, ecologists and practitioners. You can download the brochure at our [website](http://www.biodiversity-premises.eu) ([www.biodiversity-premises.eu](http://www.biodiversity-premises.eu)).



## Monitoring System



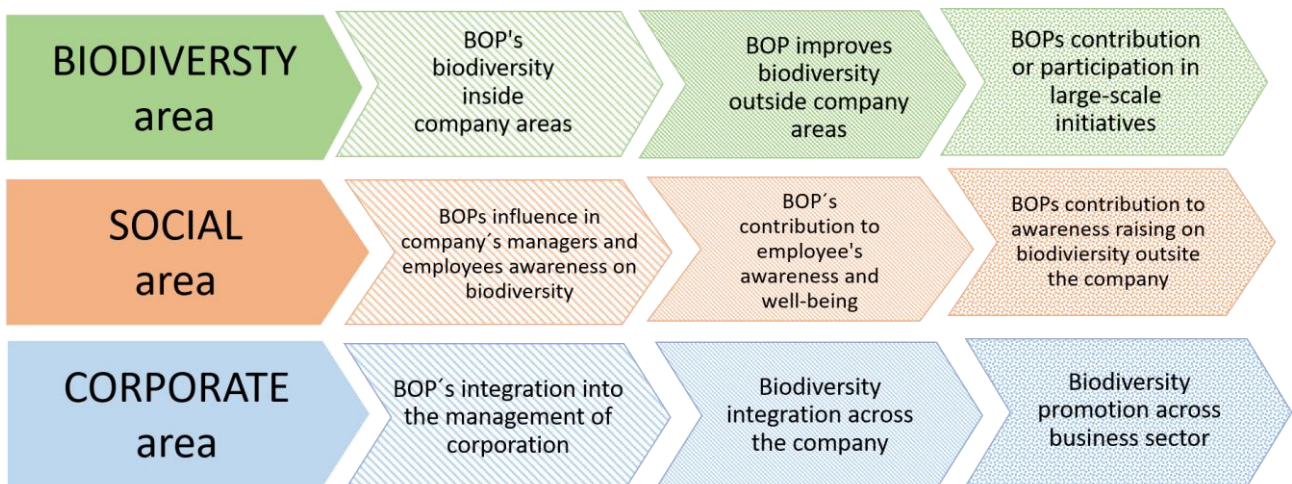
[www.natureincorporate.eu](http://www.natureincorporate.eu)

Based on the entered data, the monitoring system generates a report and provides recommendations for improvement and ready-to-use figures for CSR reporting.

The monitoring system aims to collect biodiversity related data from companies to evaluate the impact of measures adopted by their premises. It is a tool both for private and public uses. This monitoring tool helps to identify opportunities to value the benefits that biodiversity is offering to the company and that were previously hidden or unnoticed.

The monitoring system increases the company's knowledge about the biodiversity status on their premises, encourages the private sector to increase their attention on biodiversity values and their benefits, and detects opportunities for companies. The results provide the company benchmarks on the status of biodiversity and its progress over time, where it exists. Thanks to the results obtained, it will be possible to generate a baseline from which to evaluate the company's performance on improving biodiversity in a specific year, and thus, year after year, the company is able to confirm whether positive or negative impact on biodiversity is achieved. In order to achieve a positive progress, the report suggests to companies some actions they can already start.

The main aim of this tool is to collect biodiversity related data from companies to evaluate the impact of measures adopted by companies and industrial areas to improve biodiversity under a holistic consideration.



Matrix representing the areas of the questionnaire, based on Takacs (1996), that considers environmental aspects, as well as social aspects into biodiversity conception. The concept has been extended to biodiversity in corporate activities.



## European Network of BOP Focal Points

Companies need a **point of contact** where they can get information and there needs to be an organization that promotes BOP in the economy and motivates companies. We have laid the foundations for the establishment of "National BOP Focal Points".

Local initiatives already exist, but they do not exploit the full potential of cooperation, exchange and outreach. A European network offers **comprehensive exchange and multiplier effects**. National focal points as part of a European network work locally and at the same time join forces and cooperate across national borders.

Our National Focal Points are institutions providing expertise and knowledge in the field of biodiversity-oriented premises, offering **guidance, initial consultations, and trainings** to companies and other stakeholders involved. The work of the focal points does not end with the green spaces themselves, but also takes a **strategic approach** to improve the policy framework and ensuring a high quality standard. Within the BOP-Network, we share information and give mutual support.

## Main tasks of the national focal points

- Making biodiversity-friendly premises the new European standard.
- To be a competent contact for all questions related to biodiversity friendly premises.
- Guarantee the quality of biodiversity-friendly design and implementation.
- Motivate companies to integrate biodiversity into their (environmental) management.

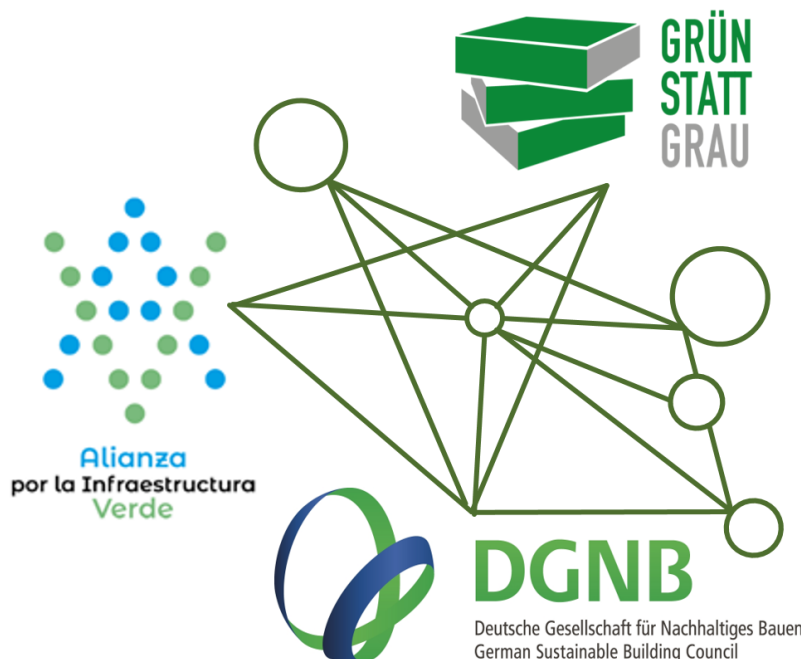
Would you like to become a National Focal Point for your country?

**CONTACT US!**

Germany:  
[DGNB](#)

Austria:  
[GRÜN STATT GRAU](#)

Spain:  
[Alianza por la infraestructura verde](#)



## Biodiversity-oriented premises: a glimpse into the future

The legal framework for business is changing, globally and especially in the EU. Companies will (have to) increasingly include ecological and social responsibility in their decision making. Therefore, businesses, large companies as well as SMEs, need to invest and take responsibility for the impact that they have on the environment and society. Transforming business premises is a pragmatic first step to incorporate biodiversity into decision making. By internalizing the costs of their impact on the environment, businesses can better reflect the true costs of their operations.

BOPs will become increasingly important in the future as they contribute to mitigate the impacts of climate change by providing carbon sinks and helping to regulate local temperatures. In addition, BOPs as a nature-based approach are in line with the spirit of the sustainability goals and at the same time offer a wide range of opportunities for improving working conditions.

Chambers of commerce, industrial areas and politics need to set the right incentives to support and guide such transformations. Conscious consuming patterns can reinforce this development and motivate companies to invest. Yet, there are still bottlenecks to tackle. One major challenge is the lack of professional landscape gardeners and inclusive architects with the necessary skills and knowledge to design and maintain these types of spaces. It is necessary to invest in training and education programs to increase the number of qualified professionals who are able to plan, design and maintain BOPs.

Despite its challenges, BOP has a bright future as the advantages outweigh the costs. A certification system for biodiversity-oriented premises, which is currently under development, will help to ensure the quality and to develop a common standard.





## Imprint

Version: December 2022

Funded by the LIFE programme of the European Union

Project Partners:



Funded by the LIFE programme of the European Union



LIFE BooGI-BOP  
LIFE17 GIE/DE/000466



## Literature

IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany.

Lovell, R., Wheeler, B. W., Higgins, S. L., Irvine, K. N., & Depledge, M. H. (2014). A systematic review of the health and well-being benefits of biodiverse environments. *Journal of Toxicology and Environmental Health. Part B, Critical Reviews*, 17(1), 1–20.

Office of the State Government of Vorarlberg (2021): Developing Biodiversity in Business Areas – Time to act!; Authors: Katrin Löning (Landscape ecologist, pulswerk), Nina Koch (Landscape architect, pulswerk), Simone Kern (Landscape architect), Marina Hämmerle (Architect). Published within the EU LIFE BooGI-BOP Project LIFE17 GIE/DE/000466.

Pugh, T. A. M., Mackenzie, A. R., Whyatt, J. D., & Hewitt, C. N. (2012). Effectiveness of green infrastructure for improvement of air quality in urban street canyons. *Environmental Science & Technology*, 46(14), 7692–7699.

Schleer, C. und Calmbach, M. (2015): „Mitarbeitergewinnung durch Corporate Social Responsibility“ in: *Ökologisches Wirtschaften* 3.

Takacs, David (1996): The idea of biodiversity. *Philosophies of paradise*. The Johns Hopkins University Press. Baltimore and London.

Ten Brink, P., Mutafoğlu, K., Schweitzer J.-P., Kettunen, M., Twigger-Ross, C., Baker, J., Kuipers, Y., Emonts, M., Tyrväinen, L., Hujala, T., and Ojala, A. (2016). The Health and Social Benefits of Nature and Biodiversity Protection. A report for the European Commission, Institute for European Environmental Policy, London/Brussels.